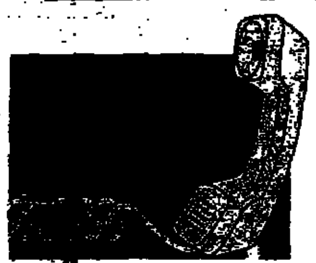
FINANCIAL TIMES

French TV
Viewers' obsessions
Page 13

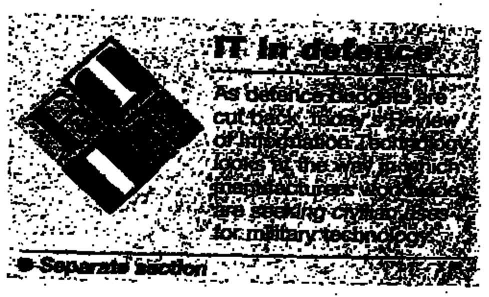
European Union
Substantial agenda for Amsterdam
Page 14



German telecoms
Angry arguing in public
Page 15

Today's survey
Turkish infrastructure
Pages 10-11

World Business Newspaper http://www.FT.com WEDNESDAY APRIL 2 1997



● Separate section

Netanyahu talks of forming national unity government

Israeli prime minister Benjamin Netanyahu said he was considering a national unity government in an attempt to reach a broad consensus for a final settlement with the Palestinians. His remarks came as two Palestinians, apparently suicide bombers, were killed in explosions targeted at Jewish settlers in the Gaza Strip and Israeli troops shot dead two Palestinians near the West Bank town of Nablus. The opposition Labour party is divided about joining a national unity government. Ehud Barak, front runner in the party's leadership race, said Mr Netanyahu was "playing for time". Page 4

Suez board backs merger: The board of French holding company Suez approved a merger with the utilities group Lyonnaise des Eaux. It also proposed the payment of a special dividend, likely to total more than FFr3bn ($520m). Page 17; Lex, Page 18; Logic is simpler than logistics, Page 20

Pakistan president's power weakened: Pakistan's MPs voted unanimously to repeal the power of the president to sack elected governments. Opposition leader Benazir Bhutto, sacked as premier by the president in November, said the move was a victory. Page 7

Russian liberals alarmed at treaty: Russian liberals say a union treaty due to be signed between Russia and Belarus would damage Russia's economy. Page 2; Editorial Comment, Page 17

Big interest in Bre-X shares: Toronto stock exchange's computer system was overwhelmed when shares in Canadian exploration company Bre-X began trading after a one-day halt. More than 2m shares of the troubled Calgary based company changed hands in the first two minutes of trading. Page 17

Row over Arianespace leadership: The French government and European aerospace are at odds over the leadership of Arianespace, the world's biggest commercial satellite launching organisation. Page 16

Trident refit costs soar: Facilities to refit Britain's Trident nuclear missile submarine fleet at Devonport in south-west England will cost about £350m ($557m), almost 50 per cent more than the cost quoted when the contract was awarded in 1993, the Ministry of Defence said. Page 8

Giat and GKN in $4.7bn arms bid: French defence equipment manufacturer Giat Industries joined forces with GKN of the UK and German engineering groups Krauss Maffei and Rheinmetall to bid for the $4.77bn European multi-role armoured vehicle programme. Page 5

New computer model for credit risk: A group of international banks will today launch a computer model for measuring credit risk which they believe could reduce the cushion of capital regulators require them to hold. Page 16

Jobs flexibility 'common across EU': Wage and employment flexibility are common across the European Union, a survey of European-based companies shows. Page 3

C&N faces delisting threat: Thai construction company Christiani & Nielsen, which engineered a takeover of its Danish parent company in 1992, is in danger of being delisted from the Thai stock exchange after reporting higher than expected losses. Page 17

Malaysia publishes listings rules: Malaysia announced guidelines under which foreign companies may seek to list their shares on the Kuala Lumpur stock exchange. Page 7

Storm hits US east coast: A spring storm lashed the US east coast with snow, hail and gales, leaving one person dead and thousands without power. Weather reports, Page 16

FT.com: the FT web site provides online news, comment and analysis at http://www.FT.com

■ STOCK MARKET INDICES

New York: lunchtime		
Dow Jones Ind Av	6,572.90	(-10.98)
NASDAQ Composite	1,215.28	(-6.42)
Europe and Far East		
CAC40	2,581.82	(-74.86)
DAX	3,295.93	(-133.12)
FTSE 100	4,248.1	(-64.8)
Nikkei	17,869.59	(-133.81)

■ US LUNCHTIME RATES

Federal Funds	6
3-mth Treas Bills: Yld	5.301%
Long Bond	94⅜
Yield	7.077%

■ OTHER RATES

UK: 3-mo Interbank	6⅜%	(6⅜%)
UK: 10 yr Gilt	96⅞	(97⅞)
France: 10 yr OAT	97.1	(97.59)
Germany: 10 yr Bond	99.95	(100.49)
Japan: 10 yr JGB	105.295	(105.020)

■ NORTH SEA OIL (Argus)

Brent Dated	$18.225	(18.58)

■ GOLD

New York: Comex		
(Apr)	$n/a	(351.0)
London:		
close	$350.65	(347.95)

■ DOLLAR

New York: lunchtime		
£	1.67925	
DM	1.6508	
FFr	5.6185	
SFr	1.4415	
Y	122.615	
London:		
£	1.6466	(1.6349)
DM	1.6697	(1.6762)
FFr	5.6204	(5.6455)
SFr	1.4415	(1.4495)
Y	123.04	(123.675)
Tokyo close: Y 123.525		

■ STERLING

DM	2.7483	(2.7394)

9 770174 738135 14

French and German markets worst hit in wake of heavy US losses

European shares fall amid fears of end to bull run

By Richard Lapper in London, Lisa Bransten in New York and Gerard Baker in Washington

European markets fell sharply yesterday following two days of heavy losses on Wall Street, with German and French share prices particularly badly hit.

The falls gave rise to fears that Europe's strong bull run may be coming to an end. Mr Mark Howdle, head of European equity strategy at UBS, the Swiss bank, said: "The party is over. The correction we have been looking for has begun."

US markets, which have fallen by nearly 5 per cent since trading closed in Europe for Easter, were calmer but dropped lower in early trading, following data showing that the strong pace of economic growth appears to be gaining momentum.

German shares suffered one of their biggest one-day falls during floor trading in Frankfurt, with the DAX index losing nearly 3.7 per cent to close at 3,281.46. In Paris, the CAC-40 suffered a fall of 2.8 per cent, ending the day at 2,581.82, down 74.86.

London shares were less severely hit. But although the FTSE 100 ended the day off its lows, the market still closed down 64.8 at 4,248.1. Some of Europe's smaller equity markets also saw significant falls, with the Amsterdam and Stockholm markets down by more than 4 per cent. Swiss share prices fell too, with the SMI index closing 157.5 lower at 4,501.7, down 3.4 per cent.

European bond prices drifted lower, with yields on German 10-year bonds rising to 6 per cent for the first time since November. European markets were partly catching up with the recent falls on Wall Street, which follow the increase in short-term interest rates by the Federal Reserve.

The Dow Jones Industrial Average lost 140 points on Thursday and a further 157 points on Monday, the biggest two-day fall - in points, not percentage - since 1987.

In New York, blue chip shares were positive through much of the early part of yesterday's session before falling into negative territory in the early afternoon. Just after noon, the Dow Jones Industrial Average was off 15.11 at 6,558.37.

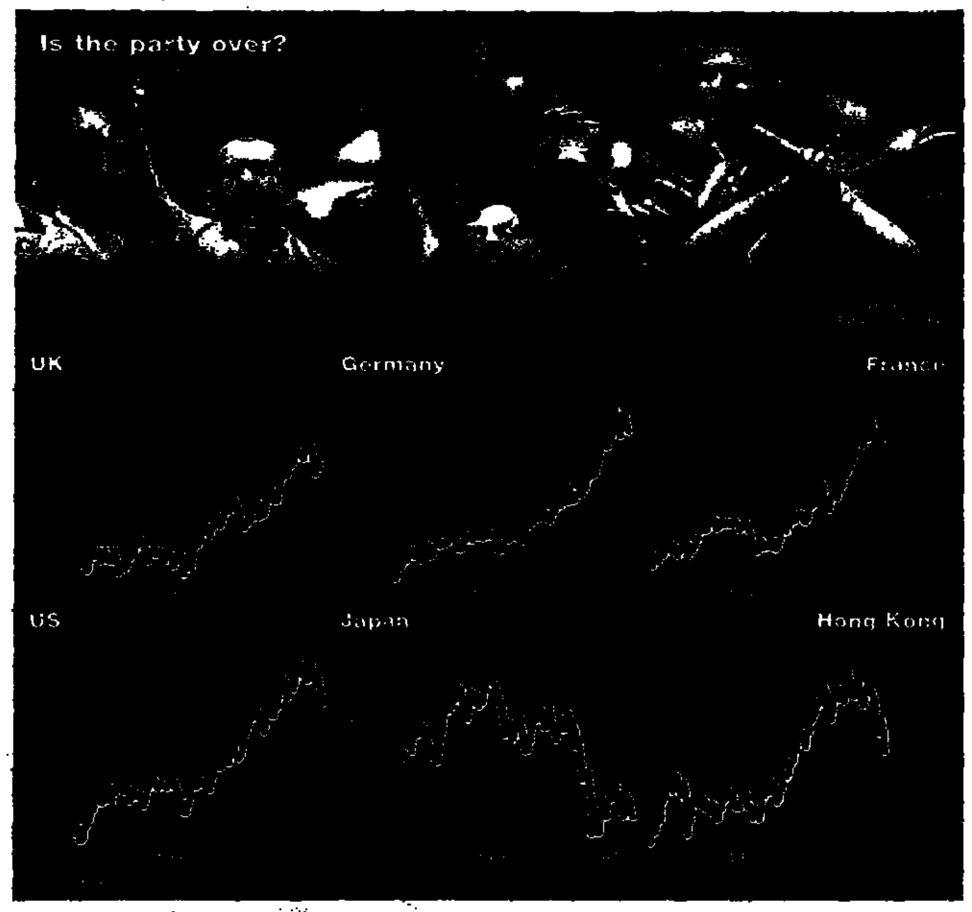
Yesterday's economic data showed that US construction spending, a key index of leading economic indicators, surged in February.

Figures from the National Association of Purchasing Management showed that US economic activity in the manufacturing sector also accelerated last month. In Europe, there are now fears that shares are overvalued following their strong recent run. Mr Howdle estimated that European shares had become overvalued by between 5 per cent and 15 per cent.

Hopes that corporate restructuring was increasing corporate profitability had been overblown. "There is no fundamental reason why equity prices should have run so far ahead of earnings and dividends," said Mr Howdle.

There are also signs that the strong inflows of liquidity from US investors which have boosted German and other markets are beginning to disappear, with reports that US investors are redeeming their holdings of mutual funds.

Earlier yesterday, Asian markets also slid lower, with Hong Kong the worst-hit. The Hang Seng Index plummeted by 460.13 points, or 3.67 per cent, to 12,074.19. In Tokyo, the Nikkei 225 index, closed at 17,869.59, down 133.



US set to block EU exports of meat after talks fail

By Nancy Dunne in Washington, Emma Tucker in Brussels and Alison Maitland in London

Trade hostilities over food broke out between the US and the European Union yesterday, threatening hundreds of millions of dollars worth of transatlantic trade in meat and other foodstuffs.

Washington announced it would block EU meat exports worth $300m a year from April 15 after the two failed to agree on recognition of each other's hygiene standards and inspection methods.

The EU introduced rules yesterday that require countries to comply with its hygiene standards if their governments have not reached mutual recognition agreements with Brussels.

Mr Dan Glickman, US agriculture secretary, said the rules would hit US exports of red meat, poultry, eggs, dairy products and fish worth more than $125m a year.

The US and the EU have been trying for nearly three years to establish a mutual recognition system – known as veterinary equivalence – required by the Uruguay Round world trade agreement. The US is assessing a move to the World Trade Organisation if no bilateral agreement is reached but hopes the EU can be lured to the negotiating table.

However, the European Commission cancelled talks scheduled for last night after discovering that the US was seeking to take the matter up directly with individual member states.

The US believes EU negotiators are overreacting to the mad cow crisis.

The Commission said it was unable to reach agreement with the US because of the

Continued on Page 18
Poultry row, Page 5

New shake-up for Japanese banks

Tokyo seeks to restore sector's credibility

By William Dawkins and Gwen Robinson in Tokyo

Japan's finance ministry is seeking to restore the credibility of the country's banks by inviting weak institutions to withdraw from foreign markets so that remaining lenders would be seen by overseas investors as "safe and sound".

The move follows a further shake-up yesterday within the country's top 20 lenders.

Under a finance ministry rescue plan Nippon Credit Bank, the smallest of Japan's three long-term credit banks which is carrying at least Y1,000bn ($8.1bn) in bad loans, is to receive Y300bn of new capital from the central bank, other private sector banks and insurance companies.

In return it will slash assets, sell property, including foreign holdings and its Tokyo HQ, and cut staff by 20 per cent, or 600 people. It will also write off three ailing non-banking affiliates, which yesterday filed for bankruptcy with total debts of more than Y2,025bn – collectively the country's largest corporate collapse.

Meanwhile Hokkaido Takushoku, largest lender on the northern island of Hokkaido, is to merge with the regional Hokkaido Bank. They will cut 2,000 jobs, 25 per cent of their combined staff, and reduce non-interest costs by 30 per cent by the end of the decade.

Senior officials said the plans were a big step towards reducing surplus capacity in Japan's banking industry.

Mr Hiroshi Mitsuzuka, finance minister, said the NCB restructuring and Hokkaido banks' merger would "help restore confidence" and "secure the credibility of Japan's banking system".

However, bank share prices continued to slide in Tokyo, and financial analysts were unimpressed with the plans.

Mr James Fiorillo, banking analyst at ING Barings in Tokyo, said they were a return to the so-called convoy system, under which strong banks are put under government pressure to bail out weak ones.

Finance ministry officials denied banks were being forced to the rescue, although Mr Sei Nakai, deputy director-general of the ministry's banking bureau, said the 12 lenders which put up new capital for NCB were "reluctant".

Mr Nakai denied there had been a change of policy from the ministry's earlier willingness to let weak banks collapse, as it did last November by ordering the closure of regional lender Hanwa Bank. NCB was too large to be allowed to fail, said Mr Nakai.

The government was sticking to its policy of guaranteeing the survival of the top 20 banks until 2001, by when it intended to complete the deregulation of the Tokyo capital markets, Mr Nakai added.

Editorial Comment, Page 15
NCB overhaul, Page 21

Airbus set to clinch $2bn Chinese deal

By Tony Walker in Beijing

Airbus Industrie is set to win orders from China for up to 50 aircraft worth about $2bn. The deal is likely to coincide with the visit to Beijing next month of President Jacques Chirac of France.

The proposed bulk order follows China's $1.3bn purchase last year of 30 Airbus A-320s and will help narrow the gap between the aircraft supplied by the European consortium and those by its US rival Boeing, which dominate the Chinese commercial fleet.

Airbus officials said details had yet to be worked out but China's interest was flagged last week with a visit to the group's Toulouse headquarters by Mr Qiao Shi, number three in the Beijing hierarchy.

Mr Jean Pierson, president of Airbus Industrie, last month held talks in Beijing with Premier Li Peng, whose visit to France last year coincided with China's agreement to buy the A-320s.

Chinese aviation officials say they want to achieve a balance between Airbus and Boeing. Boeing and McDonnell Douglas, which recently merged, account for about three-quarters of China's 400 commercial jets. Airbus has about a 10 per cent share.

China's ninth Five-Year Plan (1996-2000) includes buying about 240 aircraft. Orders for roughly half have already been placed.

Beijing is also on the verge of concluding negotiations for the assembly and manufacture in China of a 100-seat regional jet in partnership with a European consortium, which includes Airbus Industrie.

Mr Chirac's visit is expected to expedite the AE-100 project, a joint venture between Aviation Industries of China, Singapore Technologies and the four-partner Airbus consortium – Aerospatiale, British Aerospace, Daimler-Benz Aerospace and Construcciones Aeronauticas of Spain.

The expected Airbus deal follows China's agreement last month to purchase five Boeing 777s. It takes Chinese purchases of Boeing aircraft to 15, worth about $2bn, since a two-year moratorium on new orders was lifted last year.

The Airbus purchases are expected to be dominated by "narrow-body" A-320s and the slightly larger A-321s.

Beijing may also order several wide-bodied aircraft but the main requirement is for regional jets to enable further expansion of the domestic network. Traffic is growing by about 15 per cent a year.

CONTENTS

Treaty to be signed today has raised fears about economy and democratic progress

Belarus link alarms Russian liberals

By John Thornhill in Moscow

Russian liberals have expressed alarm about a union treaty due to be signed today between Russia and Belarus. They claim it would damage their country's economy and delay progress towards democracy.

However, Mr Boris Yeltsin, Russia's president, said he was a "consistent and firm" supporter of the unification of the two neighbouring Slavic states, both of which are former Soviet republics.

"It is a geopolitical necessity and an economic reality," a Kremlin spokesman said.

Mr Yeltsin will play host to Mr Alexander Lukashenko, his Belarusan opposite number, in Moscow today to *sign a union treaty committing* the two countries to closer integration.

But the treaty's precise details have been the subject of fierce in-fighting in the Kremlin and could yet be modified into a more general statement of political intent.

Mr Anatoly Chubais, the liberal first deputy prime minister, has strongly opposed a full union, fearing its economic consequences.

Mr Sergei Shakhrai, a political adviser to Mr Yeltsin's and one of the treaty's *keenest supporters, has* said union with Belarus would be the most effective response to Nato's eastward enlargement plans. Belarus shares a long border with Poland, which is pressing strongly for Nato membership.

Mr Shakhrai said the treaty would also lead to much closer economic, transport and communications links between the two countries and establish the principle of common citizenship.

"The union will also have the institution of citizenship," he said.

"That is undoubtedly a very important provision in the document because it guarantees that a Russian on Belarus territory will enjoy the same rights as a Belarusan."

Political observers in Moscow have previously dismissed talk of a union treaty as empty rhetoric but their current concern suggests the move has powerful backers in the Kremlin.

The liberal Izvestiya newspaper yesterday decried the proposed agreement, saying the fate of Russia was being decided behind its back. "Is a treaty or a conspiracy being prepared in the corridors of power?" it asked.

Russian liberals have fiercely criticised the way Mr Lukashenko has run his country of 10m people after he disbanded parliament last year and clamped down on opposition activity.

"You cannot talk about negotiating integration with a state where there is political repression and the conditions for the normal existence of the opposition are ruled out and the work of the media is restricted," said Mr Grigory Yavlinsky, leader of the liberal Yabloko faction.

Editorial comment, Page 15

The scourge of foreign limousine-loving Russian bureaucrats, Boris Nemtsov (right) welcomes IMF chief Michel Camdessus to Moscow yesterday Reuter

Swapping your Merc for Volga is no joke

By John Thornhill

Some of Russia's myriad bureaucrats may have dismissed it as an April Fools' Day joke, but a presidential order theoretically came into effect yesterday banning them from driving foreign cars.

The move to trim the privileges of Moscow's Mercedes-loving apparatchiks was the initiative of Mr Boris Nemtsov, the radical governor of Nizhny Novgorod. He has just entered government as a first deputy prime minister.

Mr Nemtsov lost little time persuading President Boris Yeltsin that all government bureaucrats should drive Russian-made Volga cars and auction off their foreign limousines in order to help settle the government's debts to federal employees and pensioners.

"When life is miserable for most people, it is not proper for the rulers to wallow in riches," Mr Nemtsov proclaimed primly.

However, financial analysts were quick to note that Volga cars happen to be manufactured by the GAZ plant located in Mr Nemtsov's Nizhny Novgorod. GAZ's share price leapt as a result.

Undeterred by the controversy, the first deputy premier has hinted that he may pursue his cost-cutting crusade further, by axing transport and housing allowances for all but "the most ill and distinguished" of bureaucrats.

Ministers have been falling over each other to match the new puritanical mood. Mr Yevgeny Yasin, a minister for economic policy, was proud to reveal that he had switched to a Volga long ago.

"It was not out of jingoism; it was motivated by purely economic considerations. My Volga car costs the ministry Rbs15m [$2,600] a month and an Audi costs Rbs32m," he said.

One St Petersburg official complained yesterday that the bulky, boxy Volga was of low quality and needed frequent repairs.

But Mr Nikolai Pugin, president of GAZ, said the company would introduce a new model for government bureaucrats in May. The GAZ-3110 would cost about $10,000 and boast more extras than the basic Volga including improved braking and lighting systems and more comfortable seats.

Rush for Ukraine mobile phone partners

By Matthew Kaminski in Kiev

Two Ukrainian companies are scrambling for foreign partners before the deadline on Saturday for them to buy cellular telephone operating licences from the government.

The development of a GSM-900 cellular network has been thrown into doubt with last week's decision by the US electronics company Motorola to abandon a planned $500m 10-year investment with its local partner, Ukrainian Radio Systems (URS).

Motorola blamed the "ever-changing terms and conditions" of the licensing procedures and accused the government of creating a poor investment climate.

"Motorola cannot continue to invest in Ukraine when the government is constantly changing the rules of the game," said Ms Victoria Bondar, Motorola's public relations director in Kiev.

It would have been one of the largest investments in Ukraine. The company will continue its other activities in the country.

A weak economy and political uncertainty have damped investor enthusiasm for Ukraine, which attracted just $1.4bn in foreign investment between 1991 and 1996 compared with more than $12bn in Hungary, a fifth its size.

URS and Kiev Star, which also won a licence to use the necessary frequencies, need foreign capital and know-how to construct a nation-wide GSM network compatible with cellular services in other countries.

Kiev Star said yesterday it was considering offers from 10 foreign operators. URS would not comment.

Ukraine Mobile Communications (UMC) – a consortium formed in 1992 by Ukraine Telecom, Deutsche Telekom, PTT Netherlands and TeleDanmark – was also awarded a licence and plans to go ahead with constructing a network.

The government last year provoked a storm by refusing to grant URS and UMC the GSM frequencies promised in earlier licensing agreements. Some officials privately complained the companies had paid too little.

The government decided to resolve the dispute with a second tender, this time for licences specifically for frequencies. This gave new local companies the chance to enter the market.

This second tender, which was delayed, produced three winners rather than the two that the western companies argue can profitably run a GSM network given the limited frequencies.

The communications ministry also announced that frequency allocation would be delayed for five months, because Kiev Star, a largely unknown company founded in 1995, needed more time to prepare.

Kiev Star, whose shareholders include the railway and energy ministries, also holds three other lucrative telecommunications licences in Ukraine.

Daewoo of South Korea, which has other operations in Kiev, was the only bidder not awarded a licence last month. It said it remained interested in developing a cellular business in Ukraine.

Italian battle lines drawn as state oil group cuts some prices

Eni ignites petrol pump war

By Robert Graham in Rome

A curious petrol pump war is being waged in Italy as a result of a decision at the weekend by the state-controlled oil group, Eni, to lower some of its prices.

The battle lines are varied. Petrol station operators have threatened a three-day strike, protesting against Eni, and the government, for unfair competition. Consumers are railing against the prospect of the strike, promised from April 15-17. The centre-left government, meanwhile, is quietly prodding the oil companies and operators to bring prices in line with the rest of Europe.

Through its subsidiaries Agip and Ip, Eni is the dominant distributor in Italy. On Thursday it announced it was lowering the price of petrol by L50 (3 cents) a litre at its motorway self-service *pumps. The company* explained this was part of a more general plan to reduce self-service prices at more than 1,500 Agip and Ip stations – equivalent to 15 per cent of the total in Italy.

The decision came after a meeting between senior government ministers and Eni's chief executive, Mr Franco Bernabè, on the same day a mini-budget was unveiled. It thus looked to the vast motoring public remarkably like a sweetener imposed by the government, which, through the Treasury, remains Eni's chief shareholder. The government reckons motorists will save L1,000bn ($600m) this year.

Ever since the anti-trust authority went public last month with a report stating petrol prices in Italy were up to L72 a litre above any *other European Union country*, the government has been pressing for a reaction from the distributors. But any competitive shake-up must confront the appalling jungle of regulations in this sector, as well as the problems posed by the large number of small unmodernised petrol stations.

The operators say prices are higher because costs are greater and average annual turnover smaller than elsewhere in Europe (average sales are L80m against an EU norm of L200m). The unions simply fear heavy job losses, claiming that more than 10,000 jobs would be at risk if a price war takes root.

Though endorsed by the unions, the strike is being spearheaded by the association of petrol station operators. While now admitting *there is some room for price* cuts, they say Eni's move is a "pure bluff" since the reductions are not across the board. They are anxious to forge a deal with the government to ensure that the effects of price cuts are borne less by the operators and more by the petrol companies. This is expected to be hammered out in talks which begin today.

The consumers' association has challenged the right to invoke a strike. But, interestingly, consumers have remained relatively indifferent to the price cuts over the Easter holiday. According to Eni, about 50 per cent in the north opted for self-service. But, in the south, as many as 80 per cent opted to pay the old price and be served.

Kiev basks in unaccustomed Russian sun

Matthew Kaminski reports on change in the political climate

General George Joulwan, Nato's supreme allied commander, received a warm welcome on his arrival in Kiev yesterday for talks on bringing Ukraine and the western alliance closer.

It was the sort of scene that might have been expected to raise temperatures in Moscow. Ukrainian leaders – and some western officials – have long feared that Nato's planned expansion into central Europe could provoke a rash Russian response, and put fresh pressure on "grey zone" countries such as Ukraine.

The opposite, in fact, appears to be be happening. The expanding co-operation with Nato, given added urgency by the looming expansion, has made Ukraine more confident in its dealings with Russia.

And since the US-Russia summit in Helsinki last month, when the Kremlin committed itself to better ties with the west, Moscow has taken a more conciliatory approach toward its neighbours.

Evidence of this came at the weekend during a break in the otherwise unproductive summit of the Commonwealth of Independent States, the grouping of former Soviet republics.

As Ukraine had long sought, President Boris Yeltsin told his Ukrainian counterpart, Mr Leonid Kuchma, that he was detaching the normalisation of ties with Kiev from the contentious issue of dividing up the jointly shared Black Sea *Fleet and settling the terms* for Russia's continued presence in Sevastopol, the fleet's headquarters in Ukrainian Crimea.

Now apparently recovered from pneumonia and heart surgery, the Russian leader also announced that his visit to Kiev, delayed six times in the past three years, would take place late next month or in early June.

"The whole world keeps speculating about our relations," Mr Yeltsin said after meeting Mr Kuchma at the CIS summit. "But we have good, warm relations – you and I together, and Ukraine and Russia."

Such friendly rhetoric has not been heard for a while, as relations between the ex-Soviet Union's two most populous countries have been acutely strained ever since independence in 1991.

Ukraine had even aggressively played up its Nato aspirations in the weeks before the CIS summit. Some officials suggested it might *soon apply to join.*

"At the moment it's the best of all possible worlds," said a western diplomat in Kiev. "Yeltsin seems to have realised that neighbouring countries have other options. Russia is not strong enough to beat them up, so it has to be nice."

Mr Anton Buteiko, Ukraine's deputy foreign minister, argued that Nato expansion, rather than encourage reactionaries in Russia, could be "a great stimulus" for Russian *democracy and regional stability.*

"We are extremely pleased that a healthy Boris Yeltsin has taken a more constructive position," said Mr Kuchma.

Stressing that his country would only deal with Russia on an equal footing, he said Mr Yeltsin had promised Moscow would no longer bully its neighbours: "Russia for the first time has started playing a role it should always have played."

The Kremlin's push for its own deal with Nato in the wake of Helsinki also has helped neutralise the pro-Moscow left in Ukraine who have argued vociferously against the recent westward tilt.

Ukraine's negotiations with Nato are progressing without controversy. Western officials in Kiev said the alliance in the past month had come back with more substantive proposals.

The agreement is supposed to formalise Ukraine's partnership with the alliance through a special consultative mechanism, similar to the proposed Russia-Nato council, and affirm that the west cherishes its continued independence.

The Ukrainians are eager for specifics. "It should have some legally binding elements and should raise security guarantees," said Mr Volodymyr Horbulin, head of the national security council.

Visit to Kiev yesterday of Nato commander Gen Joulwan has prompted no Kremlin protest

The other potential "grey zone" countries around Russia's rim are also guardedly optimistic that the Kremlin may be prompted into giving up its claims of regional hegemony.

Leaders of the Baltic countries last week welcomed Mr Yeltsin's declaration in Helsinki that Russia would *guarantee never to invade* them again and his call for renewed talks on finally concluding border and mutual recognition treaties held up for years.

But Estonia, Latvia and Lithuania said their goal remained eventual Nato membership, holding out the hope that a less threatening Russia would soften western apprehensions about admitting them. The Baltics are not likely to be included in the first wave of expansion.

"The Russian president's *position that the tragedies of* the past will not be repeated improves the possibility that Lithuania can become a Nato member sooner rather than later," said Mr Algirdas Saudargas, Lithuania's foreign minister.

Pinprick attacks draw Waigel blood

Pressure from rival has forced CSU leader on defensive, writes **Peter Norman**

Mr Theo Waigel, Germany's finance minister, has been forced to appeal for unity in the Christian Social Union, the party which he leads, following an escalation of rivalry with Mr Edmund Stoiber, the CSU prime minister of Bavaria.

In a signed article in Bayernkurier, the CSU newspaper, he has urged "solidarity" on all wings of the party, which is the Bavarian sister of Chancellor Helmut Kohl's Christian Democratic Union and provides the second strongest group of MPs in the Bonn coalition.

Mr Waigel's article, which did not mention Mr Stoiber by name, follows a succession of pinpricks on both sides. The two have disagreed on taxation, social policy and Europe, where Mr Stoiber displays a thinly disguised distaste for the planned single currency, the euro. When one makes a controversial suggestion, the other tends to knock it down, often through a background briefing with friendly journalists.

The press in Munich, where Mr Stoiber has his power base, and in Bonn, where Mr Waigel spends most of his week, has thus discovered a rich seam of stories and shown a determination to mine the "Theo and Edmund" show for all it is worth.

Mr Stoiber has sowed doubts about his party rival and boss without leaving a trail of damaging quotations. The normally good-natured Mr Waigel, who is more exposed because of his unpopularity as a budget-cutting finance minister, has been quick to take offence. This became apparent when he recently warned Mr Stoiber publicly against challenging him for the leadership. "That would cause a crack in the CSU from which it would not recover before autumn 1998," he said.

The tensions have never been far below the surface. But they have acquired a new significance because of Germany's economic problems, for which Mr Waigel as finance minister cannot escape blame, and the emergence of a new force in *Bavarian politics* – a group of independent voters – which could threaten the CSU's absolute majority in Bavaria in state and federal elections, due next year.

The CSU has enjoyed a unique position in German politics since 1962, when it first gained an absolute majority in the Bavarian parliament. It is Germany's most effective vote-gathering machine and has dominated politics in the state through a mixture of conservatism on ethical and law and order issues, support for generous social welfare benefits, and the encouragement of high-tech industries that have transformed Bavaria from a largely rural backwater into one of Germany's most prosperous regions.

Now, partly because of the unpopularity of the Bonn coalition, the CSU is facing *growing criticism* at home. Mr Waigel was booed and called a "cowardly pig" by traditionally loyalist farmers at the CSU's Ash Wednesday rally in Passau this year.

The independent voters' group, which won 16 per cent of the vote in local elections last year, has decided in principle to contest future elections at the state level. Although it lacks a platform and a list of candidates, it could prove attractive to CSU supporters who wish to protest but who would not vote for the opposition Social Democrats and Greens.

The absolute majorities of the past 35 years, which have given the CSU extra clout in Mr Kohl's coalition, could therefore be in peril.

Initial reactions to Mr Waigel's rallying cry, meanwhile, have not been encouraging. Ms Barbara Stamm, Bavaria's social affairs minister who has differed with Mr Waigel on pension and tax reform, declared that she put no value on such appeals. And the local party in Steinbach in Lower Bavaria became the first to demand that Mr Stoiber replace Mr Waigel as party leader.

FINANCIAL TIMES
Published by The Financial Times (Europe) GmbH, Nibelungenplatz 3, 60318 Frankfurt am Main, Germany. Telephone ++49 69 156 850, Fax ++49 69 596 4481. Represented in Frankfurt by J. Walter Brand, Wilhelm J. Brüssel, Colin A. Kennard as Geschäftsführer and in London by David C.M. Bell, Chairman, and Alan C. Miller, Deputy Chairman. The shareholder of the Financial Times (Europe) GmbH is Pearson Overseas Holdings Limited, 3 Burlington Gardens, London, W1X 1LE. Shareholder of this company is Pearson plc, registered at the same address

GERMANY:
Responsible for Advertising content: Colin A. Kennard. Printer: Hürriyet International Verlagsgesellschaft mbH, Admiral-Rosendahl-Strasse 3a, 63263 Neu Isenburg ISSN 0174 7363. Responsible Editor: Richard Lambert, c/o The Financial Times Limited, Number One Southwark Bridge, London SE1 9HL.

FRANCE:
Publishing Director: P. Maraviglia, 42 Rue La Boétie, 75008 PARIS. Telephone (01) 5376 8254, Fax (01) 5376 8253. Printer: S.A. Nord Eclair, 15/21 Rue de Caire, F-59100 Roubaix Cedex 1. Editor: Richard Lambert. ISSN 1148-2753. Commission Paritaire No 67808D.

SWEDEN:
Responsible Publisher: Hugh Carnegy 468 618 6088. Printer: AB Kvällstidningen Expressen, PO Box 6007, S-550 06, Jönköping.

R

NEWS: EUROPE

EUROPEAN NEWS DIGEST

Spain defends train safety

The Spanish government defended the safety standards of the country's state-owned railways after 20 people were killed in by two derailments on Monday night and early yesterday morning. Mr Francisco Alvarez-Cascos, deputy prime minister, described the accidents as a "dramatic coincidence". But he told Spanish radio he saw "no reason to change safety concepts".

Officials blamed excess speed for the country's worst rail crash since 1980, in which 18 passengers died and about 90 were injured when three carriages of a packed four-carriage intercity train were hurled off the track near Pamplona in northern Spain. The train, bound from Barcelona to Irún on the western side of the French-Spanish border, was said to have been travelling at 137 kilometres an hour (more than 85 miles an hour) as it crossed the points at a small station, more than four times the regulation speed.

The Renfe rail company said it was too early to reach conclusions about the causes of the night-time derailment of a Barcelona-Málaga express near Guadalajara, northeast of Madrid. A French woman and a Renfe employee were killed, and 22 others injured in the accident. *David White, Madrid*

Albania PM visits rebels

Albanian prime minister Bashkim Fino (left) went to the rebel-held south yesterday for the first time since insurgents seized the region last month to begin talks with their leaders. Mr Fino arrived by helicopter in the stronghold of Gjirokaster, 30 km from the Greek border, and was greeted warmly by the armed rebels. Mr Fino said he was in the region to meet the "legal representatives of local power and public order" but quickly moved to discussions with rebels and elected officials alike. Elected officials have remained in the region but the south has been run by rebel Committees of Public Salvation since the army was driven out and weapons depots looted in early March.

Rightwing president Sali Berisha was forced to name Mr Fino, an opposition Socialist, to head an all-party crisis government on March 11.

■ France has offered 1,000 troops with armoured cars and personnel carriers to a multinational security force to protect humanitarian relief operations in Albania, the defence ministry said yesterday

Italy is putting together a 5,000-strong force for the Balkan nation following approval from the United Nations on Friday. The force is also expected to include contingents from Greece, Spain, Turkey, Romania and possibly Portugal. *Reuter, Tirana*

Europay card issue up

Europay, the consortium which manages the MasterCard and Eurocheque brands in Europe, reported a 14 per cent increase in the number of its cards in issue last year to 149.9m as the plastic card continued to gain ground across the continent.

Helped by strong growth in Spain, Turkey and the UK, Europay maintained its edge over the rival Visa consortium, which last year reported a similar rise to 100m cards in Europe. Spending on Europay cards, although 19 per cent higher than in 1995 at $48.5bn, still lagged Visa's $341bn. *George Graham*

French drivers call new strike

French truck drivers yesterday called a fresh strike for May 5 after talks on early retirement broke down, union leaders said. The four main truckers' unions – the CGT, FO, CFTC and FNCR – called the stoppage just four months after a strike and road blockades by drivers paralysed road traffic across the country.

The government's accord in November to back demands for retirement at 55 instead of 60 brought an end to the initial strike. Talks broke down when the parties failed to meet a March 31 deadline to implement the accord. Francois Poletti, head of the transport section at the FO (Workers Force) union, said spontaneous strikes might start before May 5. *Reuter and AP, Paris*

■ Ground staff and pilots of state-owned Air France Europe yesterday extended a strike in protest at the airline's merger with Air France. Air France Europe was forced to cancel most morning flights from Paris' Orly airport after ground staff voted to continue their strike for another 24 hours. *Reuter and AP*

Cars sales fall in France

New car sales in France fell by 17.1 per cent year on year last month, taking the adjusted drop to 24.1 per cent for the first quarter, compared with the same period last year.

Last month's drop was smaller than in January and February, raising hopes car sales might be recovering gradually after collapsing on termination of a government and industry incentive scheme last year.

New car registrations reached 2.18m in 1996 on the back of the incentive scheme, which ended at the beginning of October. The French carmakers' association yesterday said that new car sales are likely to decline by between 10 and 11 per cent to around 1.9m units this year. *Haig Simonian, Motor Industry Correspondent*

ECONOMIC WATCH

Spanish trade deficit falls

Spain's trade gap narrowed by 37 per cent in January, showing the best performance in the country's commerce with the rest of the European Union since it joined 11 years ago. Figures from the the economy and finance ministry showed the overall trade deficit falling to Pta109.1bn ($768m) from Pta173.3bn in the same month last year, mainly as a result of strong farm sales. Exports rose 12.5 per cent compared with a 4.9 per cent growth in imports. The improvement continued the trend set last year, when the annual shortfall was reduced by 13.5 per cent to Pta2,504.5bn.

Trade with other EU partners, which in 1996 showed an accumulated deficit of Pta988.7bn, produced a Pta89.3bn surplus, with exports growing at almost three times the rate of imports. But this export performance was modest in comparison with a 32 per cent jump in Spain's sales to the rest of the world, attributed partly to competitive gains stemming from the recent strength of the US dollar. Food exports rose overall by more than 20 per cent compared with the same month last year, and sales of capital goods by 17 per cent. *David White, Madrid*

Bulgaria 'example of transition problems'

By Anthony Robinson

Bulgaria emerges as a text-book example of what can go wrong in the transition from a centrally planned to a market economy in the first full-scale survey of the Bulgarian economy by the Organisation for Economic Co-operation and Development.

"While a certain degree of macro-economic stability and growth are taking hold in much of central and eastern Europe, Bulgaria finds itself in the midst of a major economic crisis, including the virtual collapse of the banking system, a significant decline in GDP, rapid devaluation of the lev, double digit monthly inflation, an escalating budgetary crisis and a general loss of confidence and credibility in economic policy," the survey reports.

However, the Paris-based think-tank's report was concluded before the Socialist government resigned in January to make way for a caretaker government headed by Mr Stefan Sofianski, the opposition mayor of Sofia. This has contributed to a positive shift in foreign perceptions of the country's will to reform following all-party agreement on the introduction of an IMF-supported currency board monetary system after elections on April 19, irrespective of whether the Socialists or the opposition Union of Democratic Forces wins. The UDF, recently strengthened and reorganised into a regular political party, is expected to win the election.

The IMF recently agreed a $580m financing package and the World Bank approved projects worth $290m but both made financial backing conditional on the introduction of a currency board which ties domestic money supply to the level of foreign currency reserves.

"The hope is that the crisis may at last provide a context to realise painful but necessary decisive measures to deal with loss-making banks and enterprises, accelerate privatisation and improve the overall environment for domestic and foreign business," the review says.

The crisis in the banking system emerges as the heart of the problem but "stabilisation has also been hindered by problems in the implementation of key economic laws and regulations, particularly in the areas of taxation, foreign exchange transactions and prudential regulation for banks," it adds.

As in Russia, the underlying problems are made worse by an "increasingly critical" fiscal problem. The share of tax revenue dropped to 25.5 per cent of GDP in 1996 against the background of sharply rising domestic debt.

Interest on this debt alone reached 17 per cent of GDP last year, leaving the government virtually without resources.

A local Bulgarian radio broadcast a report yesterday that the government had decided to close down all banks to check their accounts, writes Anthony Robinson.

What was intended as an April Fool's joke, however, proved only too believable to a nation which now keeps most of its money in jam jars and is quick to believe the worst about the banks, whose mass failure last year caused a confidence crisis that could handicap the sector for decades.

The joke proved too close for comfort for some. "These people should realise that reality in this country is absurd enough and there is no need to play jokes with it," said one angry listener, who called the Reuters newsagency office in Sofia to check the story.

Employment flexibility 'common across EU'

By Robert Taylor, Employment Editor

Wage and employment flexibility are now common across the European Union regardless of country, according to a survey* of 303 European-based companies published today by Towers Perrin, the international consultants.

The report found no significant differences between companies operating in mainland Europe and the UK "despite the commonlyheld assumption flexible US and UK practices contrast with regulated European approaches".

It found most companies surveyed intend to develop bonus and wage incentive plans in the next two years while nearly half intend to introduce team-based pay reward schemes. As many as 84 per cent of companies said they planned to restructure by the year 2000.

"The surprising consistency" found among the companies in their "new pay" practices was due to globalisation of markets and technologies and competitive pressures within countries, rather than "any strong move to pan-European reward approaches which are not yet generally apparent in these organisations".

The participants included a wide range of leading corporations, including Alcatel Télécom, Banque Indosuez and Crédit Lyonnais in France; Lufthansa and Deutsche Telekom in Germany and Pirelli and Eni in Italy. Just over half the companies were UK-owned, many with European operations, but the survey also included 13 per cent from Italy, 9 per cent from France and 8 per cent from Spain.

The survey said individual worker performance was now the "most important factor affecting executive and managerial pay increases and increasingly for non-management employees".

However, it also found there has been a fall in involvement of employees in corporate consultation over recent years. "Achieving employee involvement appears worryingly low on the human resource and compensation managers' list of priorities," it said, "despite the evidence that such involvement correlates very strongly with successful implementation."

Learning from the Past: Changing for the Future, from Towers Perrin, 77-91 New Oxford Street, London WCIA IPX.

Netanyahu talks of forming national unity government

By Judy Dempsey in Jerusalem

Mr Benjamin Netanyahu, the Israeli prime minister, said yesterday he was considering a national unity government in a bid to reach a broad consensus for a final settlement with the Palestinians.

His remarks to Israeli Army Radio are the clearest indication to date that the conservative Likud-led coalition may be pushed towards such a government to save the peace process and stem the rapid decline of Israel's international standing.

"I am definitely considering it but I have not taken any decision on the matter," said Mr Netanyahu, hours after two Palestinians, apparently suicide bombers, were killed in explosions targeted at Jewish settlers in the Gaza Strip and after Israeli troops shot dead two Palestinians near the West Bank town of Nablus.

His remarks follow 13 days of clashes between Israeli soldiers and Palestinians, who continue to protest *against the building of a* new Jewish settlement at Har Homa in Arab east Jerusalem.

Although high-level contacts between the two sides have been suspended, the Palestinian Authority has told its police to try to maintain stability across the West Bank.

"We are trying very hard to control the ground. But under Netanyahu, the peace process is slipping away," said Mr Saeb Erekat, the Palestinians' chief negotiator. "I don't care what form of government there is in Israel as long as it puts the peace process back on track."

The opposition Labour party is divided about joining a national unity government. Mr Ehud Barak, the front runner in the party's leadership race, said yesterday that Mr Netanyahu was "playing for time" by calling for such a government.

"He is doing this to win back support from his right wing," *said Mr Barak,* former chief of staff and later foreign minister under Labour. The nationalist partners in the coalition depend on Mr Netanyahu for their political survival. "A national unity government would also provide him with a moral and political safety net once the police end the investigations into the so-called Bar-On affair," he added.

This is the alleged scandal surrounding the appointment of a new attorney general earlier this year. Shas, Mr Netanyahu's coalition partner, allegedly said it would support the Israeli troop pullback from the West Bank town of Hebron in return for its nomination of attorney general being accepted by the cabinet.

Troubling times: Benjamin Netanyahu considers his options in the Knesset yesterday

Labour has waited for the outcome of the investigation before committing itself to supporting or opposing a national unity government although Mr Shimon Peres, its leader, backs such a move.

Mr Barak said Labour had always unconditionally supported the government to combat terrorism and in every step of the way to make peace.

"But there is not enough in common between both parties for Labour to join a national unity government. I don't see that Netanyahu is committed to the peace process. He is committed to getting re-elected," he added.

Freeze on Israeli ties 'the Arab minimum'

By David Gardner in Cairo

The decision by Arab League foreign ministers to call a halt to any further links with Israel is the minimum Arab leaders feel they must do to pacify domestic public opinion, outraged by Israeli prime minister Benjamin Netanyahu's expropriation of land in occupied Arab east Jerusalem.

While it is still not clear what practical measures the "freeze on normalisation" will translate into, it is intended as a signal to Israel as well as a gesture to the "Arab street".

All Arab governments, especially the modern camp led by Egypt and Jordan, feel the Netanyahu government's continuing colonisation of Arab land is undermining their stability, stirring an upsurge in Islamic fundamentalism in all their countries. They are, as Mr Netanyahu complained on Monday, "ganging up" – but mainly for their own protection.

"You can't play with Jerusalem and he keeps on pressing that particular button," a senior Arab diplomat said yesterday. "What he's playing with is religion, and that's having a serious impact throughout the region. We have to respond."

King Hussein of Jordan, in Washington yesterday for talks on the crisis with President Bill Clinton, told Mr Netanyahu in a letter last month that his attempt to seal off Jerusalem from the Palestinian West Bank was leading the region towards an abyss.

The Netanyahu government believes that few Arab leaders feel any real solidarity with the Palestinians and the PLO leader, Mr Yassir Arafat. But the question of Jerusalem, housing the third most sacred shrine in Islam, goes beyond the issue of Palestinian rights. Every time Israel tampers with it, the ground shakes under the Arab regimes, especially those which have made peace with Israel.

General Hassan el-Alfi, the Egyptian interior minister, who has spearheaded a campaign against a five-year-old Islamist insurgency he claims to have under control, said yesterday that "this is encouraging terrorism, strengthening those terror groups which had begun to dissolve and encouraging them to unite. When the people feel there is injustice... millions will be provoked".

The Arab foreign ministers' unanimous resolution to freeze relations with Israel is a recommendation to their heads of state. But softer proposals last September, after the June Arab summit in Cairo which warned of a freeze unless Israel kept its commitment to trade conquered Arab land for peace, resulted in Gulf and Maghreb countries pulling back from further links with Israel.

Oman this week said it would not send its trade representative back to Israel, and Morocco, according to well placed Arab diplomats, has stopped even taking telephone calls from the Israeli government. King Hassan of Morocco has been a prime mover of Israeli-Arab rapprochement. But he claims descent from the Prophet Mohammed and is responsible for the Jerusalem Committee of the 54-country Islamic Conference.

Arab diplomats in Cairo, headquarters of the 22-member Arab League, say all League members are likely to signal opposition to Israeli land grabs. They emphasise the overall objective is to continue the peace process on the agreed land-for-peace basis. "It's not important whether there's an embassy or not [in Israel]," one said, "but that the message is read and that we are trying to move forward."

The "primary" boycott which the League resolution reaffirms – prohibiting direct Arab trade with Israel – was still technically in force anyway. The more damaging "secondary" boycott on third countries trading with Israel has withered away.

As a result of the peace process, and the lifting of this boycott, Israel broke into lucrative new markets in the Far East, including Moslem countries such as Indonesia and Malaysia.

The Palestinians and Syrians believe the European Union should review its partnership agreement with Israel, which contains unique access to the EU member states' Research and Development Framework Programme – the first real opportunity Israel's flowering high technology industry has had to crack Europe's single market.

World Bank reform faces close scrutiny

By Robert Chote, Economics Editor

Mr James Wolfensohn won an important victory on Monday in gaining approval for his proposals to restructure the World Bank. But as a result he will find his presidency of the development organisation subjected to unforgiving scrutiny while the plan is put into effect.

Mr Wolfensohn has already had to scale down his proposals in order to win approval from his executive board. Implementing the so-called "strategic compact" will now add $250m to the bank's running costs between now and fiscal 2001, compared to the $372m originally proposed.

The plan has several objectives. These include shifting resources from administration to front-line operations, developing new services, boosting the technical expertise of staff, decentralising activities to client countries, creating partnerships with other organisations, improving information management and reforming personnel policies.

Mr Wolfensohn claims this will give much greater impact to $2bn of the bank's $22bn of lending each year. Given the bank's catalytic role among other lenders, this should generate $5bn a year more in effective lending for development.

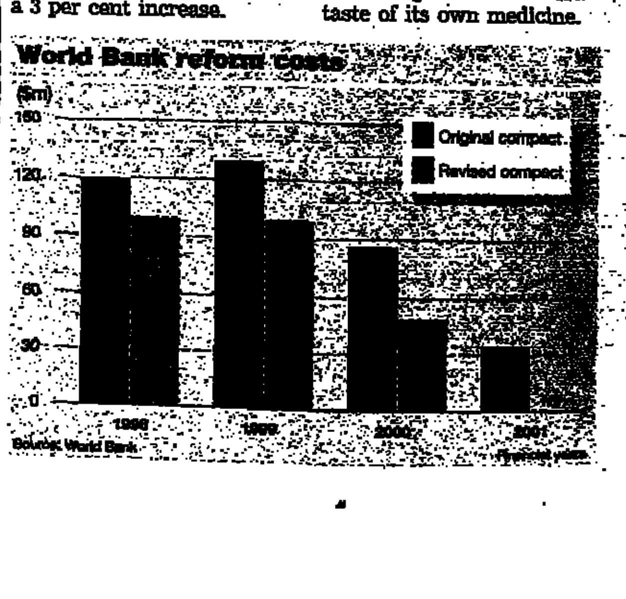
The objectives were uncontroversial, but the proposed costs took the bank's board members by surprise. Under pressure from the US, the UK and France, among others, the plan will now be phased in over a longer period than Mr Wolfensohn originally intended and running costs will be returned to their current levels by fiscal 2001 rather than showing a 3 per cent increase.

These are significant concessions, but the more important outcome in the long term may be a change in the relationship between the bank's board and the people who run its enormous bureaucracy on a day-to-day basis. Following the board meeting on Monday at which the strategic compact was agreed, the bank issued a statement which included a promise that "there will be a biannual review by the board of the bank's senior management".

This emphasis on internal scrutiny reflects two particular concerns which board members brought up when discussing the compact. First, they are fed up with short-lived promises from management that every reorganisation will be the last. Second, they remember Mr Lewis Preston, Mr Wolfensohn's predecessor, vowed to protect front-line services in the last reorganisation only for them to suffer more than back-office functions.

The US – whose support was pivotal for approval of the compact – was particularly concerned to keep down the cost of redundancies envisaged in the compact, which could see staff numbers cut by up to 700. The bank has promised not to pay off staff who could be retrained or reassigned or who are performing unsatisfactorily. The redundancy programme will be reviewed every six months.

When it makes its loans to client countries, the World Bank is used to laying down tough conditions and reviewing progress towards achieving them on a regular basis. In finally agreeing to sanction Mr Wolfensohn's ambitious reform plans, the bank's board may be giving its management an overdue taste of its own medicine.



US and EU take poultry hygiene row to the brink

Alison Maitland and Guy de Jonquières explain the background to the transatlantic trade tiff

The dispute over meat standards which yesterday erupted into trade hostilities between the US and the European Union grew out of a new provision contained in the Uruguay Round world trade agreement.

The dispute stems from a failure by the EU and the US to agree hygiene standards for processing plants for poultry and some other meat.

The Uruguay Round provision covers health and hygiene standards for animals and processing plants – the so-called sanitary and phytosanitary text – and allows countries to accept imports provided these standards are "equivalent" in the exporting country.

US officials say the aim of the text was to overcome outdated demands by importing countries that trading partners exactly replicate their own domestic hygiene rules.

These demands had included calls for exporting countries to copy "the colour of the walls (in meat plants), the material used for knife handles and the square footage of toilets," said one official.

Under the new text, the US and EU have agreed "veterinary equivalency" rules on many animal products. But poultry, petfoods containing animal remains, red meat, dairy and egg products remain unresolved. The EU is particularly concerned that US poultry plants do not meet its standards.

The crunch came yesterday when the EU, in the absence of equivalency agreements, introduced requirements that US food exports carry certificates stating they comply with EU standards. The US said it was unable to issue such export certificates and was taking retaliatory measures.

Trade disputes are frequently pushed to the brink before they are resolved. But since the formation of the World Trade Organisation in 1995, the US has increasingly chosen to use the body's strengthened disputes settlement mechanism – rather than unilateral sanctions – to resolve trade conflicts.

One reason Washington has not referred this dispute to the WTO is that it still hopes to pressure the EU into reaching a bilateral solution. Mr Dan Glickman, agriculture secretary, said he wanted to continue to seek an acceptable agreement in the coming months. However, Brussels said yesterday that the US action was regrettable and would not help talks.

Much of the sanitary and phytosanitary text is imprecise and open to interpretation. This was underlined yesterday when the Commission appeared to suggest the dispute had nothing to do with trade and was all about consumer welfare.

One advantage of bringing the dispute to the WTO would be to clarify how the text should work in practice.

Under the WTO's dispute settlement procedure, the two sides would have 60 days to reach a bilateral agreement. If this failed, a disputes panel could be set up to hear the case. If the panel's findings were still disputed, the case would go to the WTO appellate body whose ruling would be binding.

A WTO panel is due to report by the end of May on another dispute between the US and the EU over meat – hormone-treated US beef.

The US complained to the WTO last year about the EU's import ban, triggering a counter-complaint by the EU against retaliatory US sanctions that had been in place on a range of foodstuffs since the row began in the late 1980s. The US dropped its sanctions, leaving the main case still to be resolved.

Dan Glickman: seeking an acceptable agreement in coming months

Giat in $4.7bn arms bid group

By Tim Burt

Giat Industries, the French defence equipment manufacturer, yesterday joined forces with GKN of the UK and German engineering groups Krauss Maffei and Rheinmetall to bid for the $4.77bn European multi-role armoured vehicle (MRAV) programme.

The company announced it would work with its Anglo-German partners to develop common components and a "common industrial organisation" to limit development and production costs.

News of Giat's decision coincided with yesterday's deadline for the submission of bids to build initially 200 armoured vehicles each for France, Germany and the UK.

If the GKN-Giat-Krauss Maffei-Rheinmetall consortium was successful, the companies would form a single contracting agency to allocate production among the four manufacturers.

Officials at GKN said the alliance might develop into a more formal joint venture in the future.

"To get Giat on side is very important because it is the favourite to win the French order for armoured infantry fighting vehicles," GKN said.

Some industry analysts believe pressure for defence consolidation could ultimately lead to mergers among some of the partners.

The rival MRAV consortium – comprising Vickers and Alvis of the UK and Henschel of Germany – yesterday played down the importance of Giat's move.

It has signed up Panhard, the armoured vehicle subsidiary of Peugeot-Citröen, to bid for the French order.

"This is not a blow because the French decision is not the key factor – who wins the order from Germany and the UK is more important," according to Alvis.

A decision on the orders is expected early in 1998.

The UK joined the MRAV programme last year after being threatened with exclusion from the Bonn-based European arms agency if it did not participate.

For the UK manufacturers involved, a share of the order would soak up excess capacity at their plants.

WORLD TRADE NEWS DIGEST

China's 'bridge' to foreign funds

China's Junshan bridge development, which combines private and World Bank finance, could prove a model project paving the way for greater private investment in the country's capital-hungry infrastructure programme, according to the World Bank.

The bridge is to be built across the Yangste River, near Wuhan in the central province of Hubei. The World Bank is managing the associated highway investments, while private investors are being sought to build the bridge. A roadshow to solicit interest starts next month.

Mr Nicholas Hope, director of the Bank's China and Mongolia department, said: "Our infrastructure programme does encourage the development of a framework to allow greater involvement of foreign private investors in China's infrastructure... If successful, this bridge project can pave the way for many more of these types of projects in China, and probably not involving the World Bank or Asian Development Bank."

The deal comes as China enters what is expected to be its last three years of support from the World Bank's concessionary lending arm. Its share of loans by the International Development Association (IDA) – the bank's soft loan arm – has already been cut by a third from $3bn in the three years 1991 to 1994 to $2bn in the subsequent three years. For the current programme, from 1997 to 1999, IDA lending is expected to fall to $900m. China is the biggest beneficiary of World Bank lending, borrowing $3bn a year since 1993. Of this, 40 to 45 per cent goes into infrastructure development. *Louise Lucas, Hong Kong*

EU launches satellite protest

The European Commission is to complain to the World Trade Organisation that Japan favoured US bidders in a $40m contract for a global satellite navigation system. In its tender, Japan restricted suppliers to the use of US technical specifications, thereby excluding European companies. The Commission said this was a violation of Japan's obligations under the non-discrimination and transparency provisions of the WTO Government Procurement Agreement.

The Japanese ministry of transport is working on a Multi Functional Transport Satellite project aiming to launch a satellite by 1999. They plan to develop a global navigation system for aircraft, adapted to Japan's specific needs. Similar projects have been launched in the US and the EU, on the basis of different technical specifications. *Foreign staff, London*

NEC fights dumping decision

NEC said yesterday it would contest an anti-dumping move against Japanese supercomputer makers by the US Commerce department. The Japanese computer maker faces dumping margins of 454 per cent on US supercomputer sales. The Commerce department's preliminary decision backed a complaint by Cray Research, which claimed that Japanese manufacturers had offered vector supercomputers in the US at less than fair value. Mr Masao Toka, an executive vice president of NEC, said: "The dumping investigation was targeted at preventing supercomputer procurement from outside the United States, and is based on an unfair and biased" investigation by the Commerce department "centred on information from Cray." NEC has filed a suit at the US Court of International Trade asking that the Commerce Department investigation be stopped and calling for a third party to carry out an impartial investigation.

Mr Robert Ewald, the president of Cray said: "The findings confirm what we have contended since last July – namely that the four vector supercomputers offered to the University Corporation for Atmospheric Research by NEC were illegally dumped." *AP-DJ, Tokyo*

■ Rolls-Royce has won an order worth up to $240m to supply engines for Boeing 757 aircraft being purchased by Continental Airlines of the US. Continental has placed firm orders and acquired options on 16 Boeing 757s. Rolls-Royce supplies engines for 80 per cent of the world's 757s.

The UK group hopes to win further orders after Delta Air Lines of the US announced recently that it would buy up to 115 Boeing 757s. *Michael Skapinker, London.*

■ Japan and 45 other nations have erected trade barriers that are costing US businesses billions of dollars, the Clinton Administration says in its annual review of unfair trade practices. "Many markets around the world remain closed to US exports and to the extent our trade deficit is the result of these barriers... they must be reduced," said the US Trade Representative, Ms Charlene Barshefsky. In addition to 46 individual countries, the report of the most onerous trade barriers around the world also included four trading groups, including the 15-nation European Union. *AP, Washington*

■ Japan is to lend Y21.9bn ($177m) to Romania for transport improvements. Most of the money is for building a container terminal at Constanta, the country's main port, able to take 330,000 containers a year. The rest will be used for roads. The loan carries interest of 2.7 per cent a year and is to be repaid over 30 years, with a grace period of 10 years. *Anatol Lieven, Bucharest*

US figures point to stronger growth

By Gerard Baker

The already strong pace of US economic growth appears to be gaining momentum, according to a clutch of reports published yesterday.

Construction spending surged in February, a key index of leading economic indicators recorded its 13th consecutive monthly increase in the same month, and the nation's purchasing managers reported a sharp rise in manufacturing activity in March.

The figures, which all exceeded analysts' expectations, will provide more grist for the Federal Reserve in its struggle to rein in what looks increasingly like a runaway economy. The central bank, citing the need to take pre-emptive action against inflationary pressures, last week raised short-term interest *rates for the first time in two* years. Evidence of continuing economic strength is likely to mean the quarter point rise will be followed by further increases in coming months.

But US financial markets reacted calmly to the latest signs of rapid economic expansion, although fears of higher interest rates had produced over the weekend the largest two-day fall in stock prices since 1987.

Helped by unseasonably mild weather, construction spending jumped 2.3 per cent in February, the fastest rate of increase in 11 *months, the Commerce Department* reported. The rise followed a downwardly revised 0.3 per cent increase in January.

The National Association of Purchasing Management reported that economic activity in the manufacturing sector accelerated last month. The purchasing managers' index rose to 55 per cent, from 53.1 per cent in February. A figure above 50 suggests activity in the manufacturing sector is growing. The March figure was the highest in two years. The bulk of the increase was accounted for by a sharp rise in new orders.

But there was still little sign of rising cost pressures. Mr Norbert Ore, chairman of the NAPM's business survey committee, said its price index "indicated a continuing increase in prices paid, but increases were at a slower rate than in February".

The Conference Board, a private sector research group, said its principal index of leading indicators rose 0.5 per cent in February. The index, a reliable guide to economic activity about six months ahead, rose 1.1 per cent in the period from last August to February.

Overall, the US economy grew at *an annual rate of 3.9 per cent in* the last three months of 1996, and officials now believe growth in the first quarter of 1997 will have been only slightly slower. In spite of no clear evidence as yet of rising inflation, the Fed clearly believes that pace of growth, if maintained, would produce an acceleration in prices.

Immigration law off to chaotic start

By Gerard Baker in Washington and Daniel Dombey in Mexico City

A new law designed to toughen rules on immigration into the US took effect yesterday after a chaotic 24 hours in which the law's introduction was delayed by one federal court then reinstated by another.

Early yesterday morning an appeals court in Washington overturned a ruling on Monday by a US district court that the law's provisions concerning the treatment of illegal immigrants *should not take effect as* scheduled yesterday because the government had given insufficient notice of its implementation.

The law, which is part of an omnibus statute passed by Congress last year, contains tough guidelines for immigration officers. These stiffen conditions for the granting of political asylum, make it easier for immigration officers to deport arriving foreigners, and make it harder for offenders to win a waiver of deportation.

US district judge Emmet Sullivan on Monday agreed with civil rights groups that the rule changes were so significant that they required a statutory 30-day notice period before they could take effect. He delayed implementation of the rules until next *Saturday, 30 days after they* were published.

But government lawyers successfully argued before an appeals court yesterday that delay would result in chaos for immigration officers as they would have no regulations to guide them on how to treat outstanding cases. Thousands of pending deportation cases might be lost because of the postponement.

"It's going to be sheer chaos," Ms Linda Wendtland, an attorney for the Justice Department, told the court.

Civil rights groups were planning a further challenge to the law yesterday, hoping to persuade another district judge that the rules for immigration officers do not properly require them to inform arriving immigrants that they may have the right of political asylum in the US.

A row is brewing in Mexico over the controversial measures, adding to recent strains in the relationship between Mexico and its northern neighbour just a month before President Bill Clinton's scheduled visit.

There are up to 3m Mexicans living and working illegally in the US, and Mexican politicians have condemned rules prohibiting illegal aliens from re-entering the US for up to 10 years and withdrawing some forms of welfare from migrants.

Recent moves by the US Congress to block Mr Clinton's certification of Mexico as a partner in the drug war have also increased suspicions.

"The US has the right to make laws which apply to its own territory," said Mr Carlos Jiménez Macías, a senator for the ruling Institutional Revolutionary party. "But Mexico cannot allow this legislation to pass, since it affects the human rights [of Mexicans]."

*Mexican consuls and legis*lators have lined up to say that the new US law will result in mass deportations, a claim dismissed by the US. The Mexican government said it had protested against the measures since October.

However, President Ernesto Zedillo's government is painfully aware of its inability to influence the immigration debate in the US, and is concerned that the issue does not overshadow Mr Clinton's visit on May 6-7.

Cuba casts a wider tax net

By Pascal Fletcher in Havana

Cuba's tax authorities are widening their net in a move that threatens to discourage foreign investment.

After reintroducing personal income taxes for some Cubans in a society which had remained virtually tax-free for nearly three decades, *the island's new tax authori*ties are now setting their sights on foreign residents.

Last month representatives of foreign banks and other companies operating in Cuba received a circular from the Cuban Chamber of Commerce advising them that all foreigners who were in Cuba for a total of 180 days in each calendar year were required to present hard-currency tax returns for 1996 by March 31.

The circular confused foreign residents in Cuba, many of whom had been bemused by the government's efforts to reintroduce income tax among Cubans after so many years.

"What is confusing is who is eligible and who isn't," one foreign businessman said. Many foreign residents, including company representatives, said they believed they were not liable to pay taxes. They cited a 1994 Cuban tax law which indicated that only foreign residents who received hard-currency income from "national sources" were expected to pay taxes, also in hard currency.

But officials from Cuba's new National Tax Administration Office are saying that "national sources" means "activities carried out in *Cuba", which would cover* most foreign residents.

Diplomats and representatives of international organisations are exempt from paying personal income taxes in Cuba in cases where reciprocal agreements exist.

Cuba's 1995 foreign investment law also exempts foreign partners of joint ventures. But many foreign company representatives and contract workers have been forced to seek legal advice.

Cuban peso salaries are not taxed. But selective taxes on peso and hard-currency incomes are already being applied to some locals, especially self-employed workers, artists and entertainers.

Some businessmen believe the move would place a further burden on hard-currency operating costs in Cuba, which are already considered high.

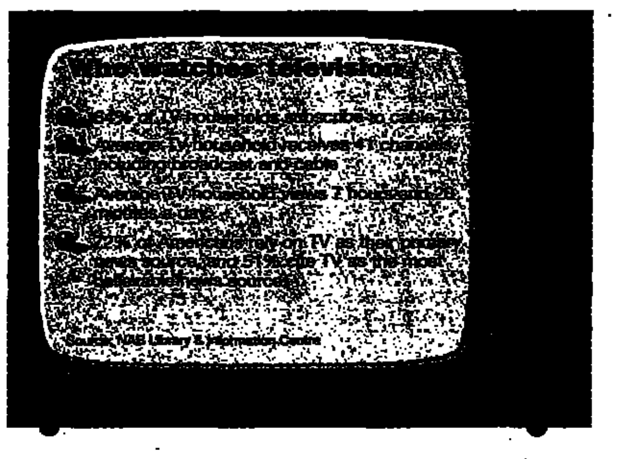
Broadcasters win US fight for access to small screen

By Bruce Clark in Washington

US broadcasters were savouring victory yesterday after a sharply divided Supreme Court upheld a law that requires cable television operators to retransmit material from local television stations. The law had been challenged by Turner *Broadcasting Systems and* other leading players in the country's $25bn-a-year cable television sector.

The "must-carry" provision in the 1992 Cable Act had been attacked by industry executives because it forces them to devote a minimum number of channels to broadcast television, even if this displaces cable services.

But Mr Dennis Wharton, *vice-president of the* National Association of Broadcasters, hailed the 5-4 court verdict as a "great decision" which would secure the future of at least 1,500 local stations. While the main broadcasting networks are paid money to have their programmes retransmitted by the cable networks, many smaller broadcasters – for example Spanish-language and religious stations – rely on the "must-carry" provision to survive.



C-Span, the cable network that covers Congress and other public events, has complained it is being crowded by broadcast ser*vices under the "must-carry"* rule.

Both sides in the dispute – cable services which fear being crowded out by broadcasters, and broadcasters which believe their programming could be dropped – have presented the issue as a test of free speech. The 40-page verdict will be studied as a guide to how the Supreme Court interprets the first amendment, guaranteeing freedom of speech, in an age of communications systems that the framers of the US constitution never imagined.

The case was also an important test of the balance of power between Congress *and the judiciary as both* attempt to define free speech in the information era.

Mr Dan Brenner, vice-president of the National Cable Television Association, regretted the fact that, in its judgment, a majority of the court's justices voiced respect for the views of legislators: "This is an example of extreme judicial restraint," he said. "The court is telling us that whatever decision Congress has made, we are not going to disturb it."

President Bill Clinton yesterday sought a study into the effects of a ban on televised advertisements for liquor, Reuter reports from Washington.

The president, expressing concern over the ending in November of a 50-year voluntary embargo on *television advertising* by the *alcoholic spirits industry*, is to ask the Federal Communications Commission – which regulates broadcasting – to look into the effects of sharp curbs.

The same issues – high technology, civil liberties and the separation of powers – are at stake in another sensitive case pending before *the court: a bid by free*-speech advocates to strike down the Communications Decency Act, which aims to outlaw pornographic material on the Internet. Public concern over the abuses of the Internet, ranging from sexual titillation to propaganda by ultra-right groups, has risen to new heights this week following revelations that the cult involved in a suicide by 39 people in California was a sophisticated user of the Internet to attract followers.

CONTRACTS & TENDERS

Pakistan president loses power to fire PM

By Farhan Bokhari in Islamabad

Pakistan's government and opposition united yesterday as MPs voted unanimously to repeal the controversial power of the president to sack elected governments – a power used four times in the past nine years.

They also took away the president's powers to appoint the governors of the country's four provinces, the heads of the armed forces and the chairman of the joint chiefs of staff.

The repeal bill, which went through the upper and lower houses of parliament in a single day, appears to strengthen considerably the position of Mr Nawaz Sharif, the prime minister.

Western diplomats and independent analysts said the legislation would make Mr Sharif one of the most powerful prime ministers in Pakistan's 50-year history, almost half of which has seen the country run by military regimes.

By contrast, the president becomes a largely ceremonial figure whose main executive role is the appointment of judges.

The powers abolished yesterday were taken in 1985 by General Zia ul Haq, who had ruled as military dictator since 1977. He secured referendum backing for the powers, then ruled as civilian dictator until his death in 1988.

Mr Sharif has left in place a provision which granted the armed forces immunity from prosecution for actions under eight years of martial law from 1977 to 1985.

Ms Benazir Bhutto, the opposition leader, who was sacked as premier by the president in November, described the new legislation as "a victory for every worker who raised their voice against military dictatorship and for democracy".

Mr Sharif, who was himself dismissed as prime minister in 1993, described yesterday as "a great day for parliamentary democracy".

The speed with which Mr Sharif acted caught many analysts by surprise. He had been silent on the issue since Pakistan's February 3 elections, then announced his repeal decision on Monday night.

Mr Sharif said Mr Farooq Leghari, the president, agreed with the proposed amendments. Mr Leghari was yesterday himself said to be in his village in the south of Punjab where he arrived on Sunday.

The changes left lingering concerns over the future role of the armed forces in Pakistan's civilian decision making.

In January, Mr Leghari formed the Council for Defence and National Security, including the three armed forces chiefs and the chairman of the joint staff committee, with the president, prime minister, and the ministers of defence, finance, the interior and foreign affairs.

The council has been criticised by democratic and human rights activists as giving representation to the generals in civilian decision making.

Mr Sharif yesterday refused to discuss the fate of the council, which is empowered to discuss and advise on a range of issues including the economy, internal security and foreign affairs.

Japanese adapt to sales tax rise

By Bethan Hutton in Tokyo

Japan's higher consumption tax, which brought down one government and almost broke a coalition before it was passed two years ago, came into force yesterday accompanied by grumbles from shoppers and apologetic smiles from sellers.

Mr Ryutaro Hashimoto, the prime minister, asked for people's "understanding and co-operation" in the smooth implementation of the tax rate increase, from 3 per cent to 5 per cent.

The extra Y5,000bn ($40.5bn) revenue expected from the increase is intended to help Japan cope with the burden of its ageing population. Moving from direct to indirect taxation is seen as particularly necessary because the pool of income tax payers is shrinking as the number of pensioners rises.

Introduction of the original 3 per cent consumption tax in 1989 was widely blamed for the downfall of the Liberal Democratic party government, which had governed the country for a nearly uninterrupted spell since the second world war. Reaction this time has been more resigned, although the impact of the tax increase may be much greater in the current economic conditions. Japan is slowly emerging from a long economic downturn.

"The higher tax will cost the average family Y85,000 ($690) a year, says the Japan Consumers' Co-operative Union. Economists disagree about its likely impact on consumer spending this year, but some decline is inevitable in the short term.

Shoppers have had plenty of time to get ready for the increase – it was announced in November 1994 and confirmed in June last year – but in the run-up to the introduction of the tax, shoppers still rushed to buy big-ticket items in order to save a few thousand yen.

Shops and petrol stations open 24 hours were doing brisk business just before midnight on March 31, and Akihabara, Tokyo's main shopping district for electrical appliances and computers, had a busy weekend. Car sales for the first quarter were lifted by the impending increase, and new house purchases also appear to have been affected.

More upsetting for consumers than the actual increase may be the growing confusion over price labelling. Remarkably, for a country as heavily regulated as Japan, there are no rules on whether marked prices should include tax. Even in the same shop, the price printed on a pack of noodles will not include tax, but that on a magazine will.

More confusingly, publishers now say that in future book and magazine prices will not include tax, while department stores say they may show both pre- and post-tax prices, to avoid shocking buyers of big-ticket items at the checkout.

Editorial comment, Page 15

Property blues show sign of lifting

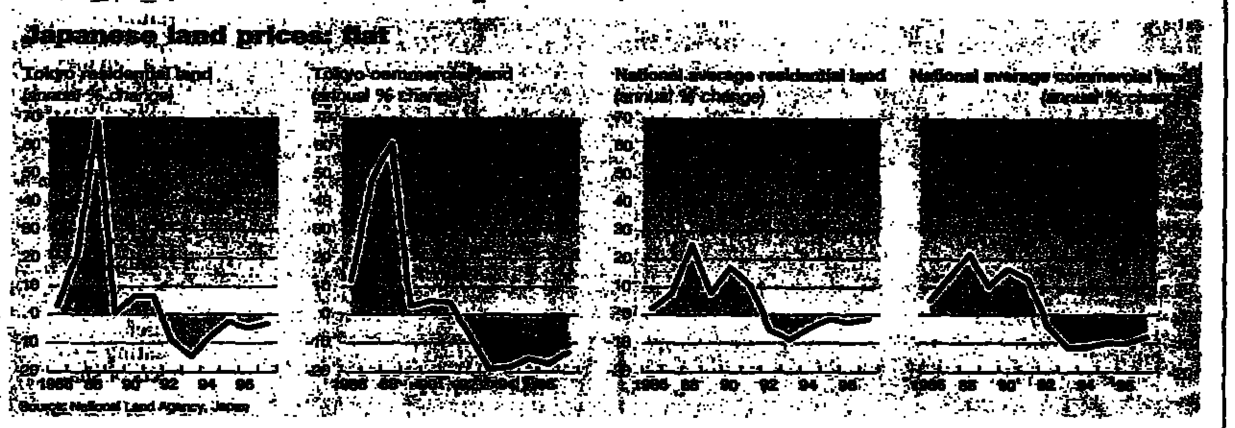
Bethan Hutton and Jonathan Annells report on a new mood of confidence

Japan's property bubble took six years to pump itself up, and has now been losing air for six years. But in the past few weeks, there has been a renewed mood of confidence that the slump may be at an end.

Hopes are based on government measures announced this week to help the property market, renewed interest from foreign investors and better than expected results from some high-profile land auctions.

The biggest auction involved the sale of a site owned by the defunct Japan National Railways (JNR) in the prime business district. The buyer was Pacific Century, a Hong Kong-based company run by Mr Richard Li, son of Mr Li Ka-shing, the Hong Kong billionaire. Pacific Century paid Y85.8bn, or Y17.8m ($145,000) per square metre, for the plot – about 65 per cent more than the predicted price.

This and other JNR land packages excited the market. They were uniquely attractive: large blocks of land in prime locations next to main stations. They came with added inducements, such as permission for a higher ratio of floor space to land area. But most property waiting to come on to the market is more typical for large Japanese cities: small, awkwardly shaped blocks in average locations, not necessarily convenient for transport.



The question is whether enough of Japan's property glut is of a high enough standard to attract the same kind of interest.

The price of prime land in Tokyo and Osaka has fallen by as much as 80 per cent from its peak value in 1991. According to the National Land Agency, land prices fell last year for the sixth year running, by an average of 2.9 per cent.

There is some evidence that prices in some areas, and for some categories of property, may be bottoming out. But in other key areas – such as commercial property in Tokyo – further falls are expected. Tokyo commercial property fell 13.2 per cent last year; Osaka's fell 9.9 per cent.

The rental market, on the other hand, may be stronger. Tokyo's total office stock amounts to some 400m square feet, compared to 250m square feet in London. Yet the fact that bond yields have dropped below theoretical yields on property for the first time ever, while the cost of borrowing money at less than 3 per cent is promising; even if prices have not bottomed out, the chances of earning a decent return on property have improved.

Mr Guy Cubitt, representative director in Tokyo of international property consultants Richard Ellis, says rents for high quality office space are beginning to increase again, as vacancy rates drop rapidly. Tenants have been taking advantage of the lower prices to upgrade, a move which increased in the aftermath of the Kobe earthquake.

Additionally, rents are now at such a level that Tokyo no longer appears expensive in comparison with Hong Kong or Singapore, a fact which has attracted the attention of foreign buyers.

Besides Pacific Century, Samsung recently bought half a 19-storey Tokyo building for Y10bn, and one of the Shiodome buyers was Alderney Investments of Singapore.

The new found optimism about the Japanese property market started with the Shiodome land auction in February, at which 5.25 hectares of prime Tokyo land on the site of a former rail freight station was sold to three consortia for development into corporate headquarters, commercial office space, cultural facilities and apartment buildings.

The land had been put up for sale by the JNR Settlement Corporation, which was set up to dispose of the JNR's legacy of debt after its break-up in 1986. The auction netted Y372.3bn, or Y7.07m per square metre, slightly higher than initial expectations. Last month, another JNR plot by Osaka station fetched more than expected, at Y4.7m per square metre.

The government has also this year introduced several measures to help the stagnant market, such as increasing plot ratios, and simplifying tax treatment for land transactions. The latest package, unveiled on Monday, will help banks to securitise the property-backed non-performing loans they are burdened with, and so possibly help liquidity in the market.

Beijing study predicts further world stability

By Tony Walker in Beijing

The rise of "oriental cultures" driven by a rapidly modernising China will counter western influence and help maintain international stability, according to an influential Chinese "think tank" which is supported by the military.

The Institute of Strategy and Management, in a wide-ranging and unusually candid public assessment for a Chinese institution, is relatively optimistic about global trends and forecasts that Sino-US relations will improve "irrespective of unavoidable frictions".

The institute, staffed by young western-educated scholars, supplies research material to China's leaders and is known to have the ear of President Jiang Zemin. Its report is more forthright than standard Chinese security assessments released to the public.

"The world will basically move forward along the road of political stability," the report says. "The momentum of westernisation will be checked by the rapid growth of east Asian economies and the strengthening of oriental cultures."

The report forecasts a favourable international environment for China's continued inexorable rise as a "major world power". It also praises Beijing's "firmer stand" in 1996, a reference to its handling of the Taiwan issue.

Angered by what it regarded as Taiwan's attempts to increase its "international living space", China early last year fired missiles into waters off the island, prompting a chill in Sino-US relations.

In an unfortunate choice of words, given allegations in the US over possible Chinese funding of the Democratic presidential campaign, the report says that to improve Sino-US understanding "public relations on US Congress and media should be conducted more vigorously".

"Unofficial channels should be utilised to give the American public a more balanced picture of China's conditions and policies."

The report identifies western concerns about a "China threat" as the main obstacle to Beijing's efforts to improve its international relations. It accuses China's critics of "seizing on human rights" as a pretext to frustrate its development.

But in spite of such opposition the report says China's economic power will not be checked, and the resumption of sovereignty over Hong Kong on July 1 will further bolster its position.

"After the return of Hong Kong to China, the country will have a combined gross national product of $1,000bn and combined exports amounting to about 5 per cent of the world total, ranking fourth or fifth in the world," the report says.

The report also says that prevention of "another cold war" will be a basic principle guiding leading powers in the years to 2000, and it forecasts that regional security co-operations will be enhanced.

The report is optimistic about the world economy, saying that developed countries will emerge from stagnation to achieve annual growth of 2-3 per cent, while higher growth will be maintained in developing countries.

ASIA-PACIFIC NEWS DIGEST

Malaysia sets listing rules

Malaysia yesterday announced guidelines under which foreign companies may seek to list their shares on the Kuala Lumpur Stock Exchange. The move is part of the country's drive to broaden and deepen its financial markets to compete as a regional financial market against Hong Kong and Singapore. Initially, only foreign companies with "substantial" Malaysian interests will be considered. The shares of all listed companies are to be denominated in the ringgit, Malaysia's currency. Only primary listings would be allowed, a statement from the Securities Commission said.

The commission defined "substantial" Malaysian interests as when resident Malaysians owned more than 50 per cent of the company's paid-up capital, or when the largest shareholder of the company was Malaysian and owned more than 33 per cent of the company. In effect, the most likely candidates for listings are overseas companies acquired by Malaysians, such as Lotus, the UK sports car maker. *James Kynge, Kuala Lumpur*

Thais to ease ownership curbs

Thailand may soon relax foreign ownership restrictions on finance companies as a way to provide the struggling industry with a quick cash injection, the finance minister, Mr Amnuay Viravan, said yesterday. But it will keep the foreign ownership restrictions on commercial banks at 25 per cent. Under existing regulations foreigners may own up to 25 per cent of finance companies, but several international financial institutions have expressed interest in investing in the sector if the limit was raised. Given the liquidity crunch at some companies, Mr Amnuay said a relaxation on foreign ownership restrictions "is in the pipeline for the finance companies".

The draft of the country's first securitisation law, which should give financial institutions access to more stable long-term funding, was passed by the Thai cabinet yesterday.

■ Thailand's inflation rate rose 4.5 per cent year-on-year in March, led by a 5.7 per cent rise in food prices. Although the rate was higher than February's 4 per cent, on a year-on-year basis the inflation rate has slowed for seven straight months. *Ted Bardacke, Bangkok*

Victoria to sell power grid

Privatisation of state-owned electricity assets in the Australian state of Victoria took another step forward yesterday, when ministers announced they were about to invite bids for the power grid. The state government, which has already sold the distribution businesses and is in the process of disposing of power stations, said it expected the sale in the second half of 1997. Legislation for price regulation and to protect standards would be introduced shortly.

Simultaneously, Victoria's state government announced it was selling the 49 per cent of the Loy Yang B power station to Edison Mission Energy of the US. Edison Mission bought the other 51 per cent of Loy Yang – a 1,000MW generator – in late-1992. *Nikki Tait, Sydney*

■ South Korea's trade deficit rose 78 per cent to $7.4bn during the first quarter of this year, almost half of the official target of $14bn-$15bn for 1997 against $23.7bn in 1996. *John Burton, Seoul*

■ Foreign investment in the Philippines reached 490bn pesos ($18.6bn) in 1996, beating the government's forecast of 465bn pesos, according to official figures. Japan was the biggest foreign direct investor with 9.5bn pesos, followed by the US with 4.1bn pesos. *Justin Marozzi, Manila*

Congress targets Gowda in deal

By Mark Nicholson in New Delhi

Congress party officials yesterday suggested the party could reach a political deal with the minority United Front government that it undermined at the weekend, and avoid a no-confidence vote next week, if Mr H.D. Deve Gowda first resigns as prime minister and coalition leader.

Mr Sitaram Kesri, the Congress leader, who has plunged India into political turmoil by withdrawing parliamentary support from the UF, has also insisted that Congress assume the leadership of the "secular forces" government.

However, an aide to Mr Kesri said that "if Mr Gowda goes, anything is possible," adding: "If he goes, there will be no vote."

The remarks suggest Congress is seeking a deal with the UF – a 13-party grouping which combined after last year's elections, with Congress backing, to keep the "communal" Bharatiya Janata party (BJP) from power – to avert a confidence vote set for April 11 which could plunge India back into a snap election.

But with several more days political brinkmanship in prospect, the UF has ruled out as "non-negotiable" any leadership change and is instead hoping the threat of elections will force Congress MPs to reconsider Mr Kesri's move. "We're just allowing that pressure to mount," said one UF leader.

UF leaders, meanwhile, sought to salvage the government's recent business-friendly budget from the political crisis, calling on the BJP, the largest single party, and Congress to allow a vote on the Finance Bill before the confidence motion to avert a "national crisis".

Mr Kesri's camp claims that Mr Gowda has forfeited the right to head the "secular" UF, having "allowed" under his 10-month tenure the formation of elected coalition governments in Punjab and Uttar Pradesh states which include the Hindu nationalist BJP.

Mr Kesri's critics allege that the Congress leader harbours a personal grudge against Mr Gowda, believing him to be waging a vindictive campaign against him, one threatening eventual criminal and corruption charges.

Barring the unforeseen, the 176-seat UF would appear bound to lose the confidence vote in the 545-seat house. But there are also no signs that Mr Kesri has yet won Congress any political support, without which it could not form an alternative government.

The political stand-off has, meanwhile, undermined any promise of progress in talks between India and Pakistan, which had resumed this weekend with bureaucratic contacts after a chilly three-year break.

Indian officials said no "substantive" progress was now possible until the country's political crisis was resolved, thus reducing to the level of courtesy an expected meeting between the two sides' foreign ministers in Delhi next week.

Lex Comment, Page 16

Merrill arm reports errors in accounts

By John Gapper, Banking Editor

Merrill Lynch, the US investment bank, said yesterday it was tackling a number of "unreconciled balances" in the accounts of its equity derivatives arm in London, but it did not expect to make significant losses.

Merrill, which discovered the unreconciled balances when it started to transfer its equity derivatives balance sheets from one subsidiary to another, said it was likely to lose only "an insignificant amount" through the errors.

Although the losses are likely to be minor, they come amid concern at many banks at the potential to lose money in trading or accounting errors, particularly within derivatives arms where financial contracts may be complex.

In 1994, Salomon Brothers, the US investment bank, took a $278m charge against profits to cover accounting errors that mostly occurred in its London operations. Salomon was later disciplined by City of London regulators.

The Securities and Futures Authority said yesterday that it had been notified by Merrill about the accounting errors, and was monitoring events.

The SFA said it had no plans to investigate the company.

Merrill emphasised that no customer would lose money as a result of these errors, and there had been no mispricing by traders.

One Merrill executive described the accounting errors as "housekeeping stuff" that could be corrected.

The investment bank has brought a small team of accounting specialists and back office staff from New York to handle the switching of the accounts from its capital markets arm to Merrill Lynch International, its European arm.

Merrill originally decided to move equity derivatives into Merrill Lynch International to place it in a regulated entity.

The equity derivatives operation mainly buys and sells listed and over-the-counter derivatives for customers.

The SFA said that it was being "kept up to date frequently" by the US company. It added that there had been "no suggestion of anything sinister".

Nuclear fleet refit cost soars

By Bernard Gray, Defence Correspondent

New facilities to refit Britain's Trident nuclear missile submarine fleet at Devonport in south-west England will cost about £350m ($556.5m) – almost 50 per cent more than the £237m quoted when the contract was awarded in 1993, the Ministry of Defence has confirmed.

DML, the company which now owns the yard, beat off a £250m bid from Rosyth in Scotland to win the work in 1993. Although the decision was made on the basis of a slender £13m difference, which has since been dwarfed by a £113m cost increase, the winning yard will get exclusive refit work worth several billion pounds over the 30-year life of the submarines.

DML will start work on the facilities immediately, because there is barely time to finish the work before the submarine Vanguard has to be refuelled in 2001. The ministry is justifying the price increase on the grounds that the competition in 1993 was for comparative purposes only and excluded some costs to make comparisons between the rivals easier. It had previously refused to reveal details of the cost of the controversial facilities.

The ministry says the price of the facilities will fall in a range of £335m-£359m depending on incentive fees to be paid to DML for completing the work quickly. However, the ministry also insists that DML will be subject to heavy penalty clauses if the facilities are not ready in time for Vanguard.

The ministry claims that the costs are higher because DML will provide facilities not covered in the original bid. A large element of the increase comes because more of the risk for handling the project has gone to DML than was envisaged in the 1993 competition.

Labour leader taunts Major: 'This is not how Thatcher would have handled the issue'

Opposition piles 'sleaze' pressure on PM

By James Blitz, Robert Peston and William Lewis

The centrist Liberal Democrat party yesterday piled more pressure on the governing Conservatives over the issue of "sleaze" by announcing that they would join Labour, the biggest opposition party, in backing an independent candidate to stand against Mr Neil Hamilton at the national election.

Mr Hamilton, the central figure in the "cash-for-questions" furore, faces claims that he failed to declare money he received as an MP in the late 1980s from Mr Mohamed Fayed, owner of the Harrods store in London.

In a move triggered by apparent backing for Mr Hamilton from Mr John Major, the prime minister, at a London press conference, the Liberal Democrats announced they would join Labour in withdrawing their candidate in the district represented by Mr Hamilton.

"We will be joining the search to see if a suitable and independent anti-corruption candidate can be found to stand against Neil Hamilton," said Lord Holme, head of the Liberal Democrats' election campaign.

Mr Hamilton, who denies any wrongdoing, is resisting pressure from some members of his constituency party to stand down before polling on May 1. His refusal was portrayed by Labour as a sign of weakness on the part of the prime minister.

Mr Major said that he would not make a judgment before publication after the election of a report by Sir Gordon Downey, the Commissioner for Standards. One of the main difficulties facing Mr Major is that Mr Hamilton can be deselected only by his local party and not by the party leadership.

Mr Major rejected a claim by Mr Tony Blair, the Labour leader, that failure to sack Mr Hamilton was a sign of weak leadership. Mr Blair retorted: "I would simply put this question: can you imagine a situation where Margaret Thatcher [Mr Major's predecessor as Conservative prime minister] would have said: "There are certain candidates I don't want to stand but there is absolutely nothing I can do about it'?"

Baroness Thatcher, who was Conservative prime minister from 1979-90, made clear yesterday that her approval of changes made to the Labour party by Mr Tony Blair, its leader, had not dimmed her mistrust for its ideals.

"It is surely good news that the Leader of the Opposition now rejects many of the policies his party has pursued – with his own enthusiastic endorsement – in the past," she wrote in the London Daily Telegraph. But that did not mean he had changed "the reality of his party" with its "remaining commitment to collectivism".

The Tory years: is the end nigh?

1979 Margaret Thatcher celebrates victory after becoming the country's first woman prime minister. She is flanked by her husband Denis and son Mark

1982 British troops return to the Falkland Islands after the invasion by Argentina

1992 John Major (right) wins his first general election, but his close political ally Chris Patten (left) loses his parliamentary seat. Here the prime minister congratulates Mr Patten on his subsequent appointment as Britain's last colonial governor in Hong Kong

1995 Hope of a peaceful settlement in Northern Ireland reaches a peak during President Clinton's visit to the capital, Belfast

The electoral system

Rift on euro opens in pro-EU party

By George Parker and William Lewis

Some candidates standing for the centrist Liberal Democrat party are defying their party line by adopting a sceptical tone towards the European single currency. The rift is a muted echo of divisions in the governing Conservative party.

Mr Paddy Ashdown, Liberal Democrat leader, said yesterday that the party did not intend to weaken its commitment to Britain adopting the euro, despite growing concern among some activists. He has described his party as "a rock" over Europe, immovable in its support for the European Union.

However, a number of candidates are telling voters in their local districts that they are "not persuaded" of the merits of Britain taking part in the single currency. Mr Paul Keetch, the party's candidate in the western England city of Hereford, said: "Usually our party leads the debate, but on the question of Europe we are having to catch up with public opinion.

"My personal opinion is that I am not persuaded that at this time a single currency would be a good thing for Britain."

Mr Keetch's views are typical of a number of Liberal Democrat candidates fighting seats where the public mood is wary or even hostile towards Europe.

The problem is particularly acute for candidates in south-west England – the Liberal Democrats' main target region – where the "mad cow" crisis and fishing disputes have hardened attitudes towards Brussels.

Observer, Page 15

Crumpled chancellor still in fashion

Respected Kenneth Clarke set for what may be his last Ecofin meeting

Sporting crumpled suits and pro-European views, Mr Kenneth Clarke can hardly be accused of courting fashion in the Conservative party. On the European stage, however, Britain's chancellor of the exchequer cuts a sharper profile. His influence among fellow EU finance ministers has grown steadily, allowing him to play a vital if unpublicised role in negotiations over economic and monetary union.

This weekend, Mr Clarke will leave the UK election campaign and join his European colleagues in the Dutch coastal town of Noordwijck to discuss the countdown to Emu. With the Tories trailing badly in the polls in Britain, it could be his last Ecofin meeting.

Mr Ruairi Quinn, finance minister in the Republic of Ireland, says: "Ken Clarke has been a wonderful ambassador for Her Majesty's government, and not just because he speaks from a national perspective. His attitude to the single currency is: we may or may not take part in this project but it is in everybody's interest, particularly the UK's, that it is successful."

Mr Gerrit Zalm, Dutch finance minister and host, says the secret of Mr Clarke's success in Europe is that he speaks in a humorous, intelligent, and constructive manner: "That's not easy given the political circumstances in Britain."

Along with Mr Carlo Ciampi of Italy, Mr Clarke is one of the few finance ministers who have dared to stand up to Mr Hans Tietmeyer, the towering head of the Bundesbank. But he is also blessed with the plain man's touch. Mr Clarke is no Euro-federalist. He once defended his veto of funds for the European Space Agency on the grounds that it was "just a scheme to put Johnny Frenchman in space".

He is a biting critic of Europe's high unemployment and inflexible labour markets. Like prime minister John Major he thinks the rest of the EU could learn a lesson from the liberalised British economy.

Mr Clarke has, however, always acknowledged Britain's dependence on European markets. His guiding principle in nearly four years as chancellor has therefore been to keep open Britain's options toward Emu while exerting maximum influence over the negotiations.

A year ago, at a meeting of finance ministers and central bankers in Verona, Italy, Mr Clarke successfully pleaded with his European colleagues not to make membership of the revamped Exchange Rate Mechanism compulsory for countries outside the future euro zone.

Mr Quinn quotes him as saying that there were some people in Britain who thought hell had begun when Britain joined the ERM [in September 1990] and that heaven had begun when Britain left it. Mr Clarke is said to have added: "Britain is more likely to join the single currency before ERM, so don't make it more difficult for us to do so." Eurosceptics in Mr Clarke's own party suspect that his secret ambition is to push Britain into Emu alongside France and Germany. The chancellor insists that Britain must play in Europe's "first division", but he has never put the chances of Emu going ahead on time on January 1, 1999 at higher than 60 per cent.

In recent weeks, Mr Clarke may have have trimmed that figure in response to record unemployment in Germany and a slower-than-expected recovery in Europe. Yet unlike cabinet colleagues such as Mr Malcolm Rifkind, the foreign secretary, he resisted the temptation to make capital out of Emu's difficulties.

Because he does not fit the European stereotype of the British as political saboteurs, Mr Clarke has won the trust and respect of colleagues in Brussels. "He is Britain's most effective minister. If only ... he could be your prime minister," says one German diplomat wistfully.

Mr Clarke's reward came at the EU summit in Dublin last December, towards the climax of bitter Franco-German negotiations over the terms of the stability pact for enforcing budgetary discipline among countries in the euro zone.

The French insisted that politicians should have discretion on when to impose penalties on fiscal delinquents. The Germans insisted on automatic sanctions. Both claimed to have the Maastricht treaty on their side.

On the Friday morning, Chancellor Kohl ordered a meeting between the French and German finance ministers, with Mr Jean-Claude Juncker, the prime minister of Luxembourg, acting as go-between.

Mr Quinn, the chairman, called in the European Commission and Mr Zalm of the incoming EU presidency. Suddenly, Mr Clarke poked his head around the door and asked whether he could join the inner circle.

Mr Philippe Maystadt, the long-serving Belgian finance minister, says the positive response confirmed Mr Clarke's standing. "I was surprised how involved he was because he could easily have abstained," says Mr Maystadt, "but instead he made a constructive contribution."

The lesson of Dublin was that a forceful British presence at the EU negotiating table can tip the balance. If Britain remains on the sidelines, France and Germany dominate and the smaller states are trapped like marbles between the elephants. Mr Clarke, himself a heavyweight, grasped that fact long ago.

Lionel Barber

NEWS: UK

UK NEWS DIGEST

Expansion for HSBC offshoot

First Direct, the fast-growing telephone bank owned by the Midland Bank offshoot of HSBC, yesterday announced the construction of a new telephone call centre in southern Scotland that is expected to create 5,000 jobs over the next seven years.

The Conservative party, whose few Scottish seats in the House of Commons are under grave threat in the coming general election, has been eager to announce the First Direct investment for weeks.

But despite repeated government leaks, First Direct had insisted that it was still weighing the advantages of Scotland and the Republic of Ireland.

Even yesterday, Mr Michael Forsyth, the chief minister for Scotland, managed to jump the gun by welcoming the new call centre hours before First Direct was ready to confirm its decision. "This new site is designed to ensure we have the capacity to expand our business well into the next century," said Mr Keith Whitson, chief executive of Midland.
George Graham

■ NORTHERN IRELAND

Hospital bed court for shot man

A court convened in Belfast yesterday by the hospital bed of a 19-year-old man shot by undercover British soldiers in the Northern Ireland village of Coalisland last week. Mr Gareth Doris from Coalisland, who is being kept under armed guard, lay on top of his bed wearing pyjamas during the four-minute hearing.

A dressing covered a gunshot wound to his stomach and his collapsed lung was being inflated by air from a tube at his bedside. He was charged with attempted murder and maliciously causing an explosion outside Coalisland police station last Wednesday.

He did not speak and was remanded in custody to appear at Belfast Magistrates Court on April 29.

"The defendant has asked me to indicate that he is vigorously contesting the charges," said a defence lawyer.

■ MANUFACTURING OUTPUT

Tenth month of growth recorded

UK manufacturers enjoyed growing order books and rising output last month, as the purchasing managers' index recorded its tenth consecutive month of expansion. The index provided mixed signals over the state of the economy, with good news on manufacturing output and increased orders balanced by signs of falling employment caused by concerns over rising costs. Analysts said the index, by the Chartered Institute of Purchasing and Supply, showed evidence that UK exports were picking up despite the big rise in the pound's exchange rate since August 1996. Although the overall index, which surveys manufacturing sector activity, fell slightly to 52.9 last month, below February's level of 53.4, it remained safely above the key 50 level. An index reading below 50 signals a contraction in activity.

The number of manufacturers with new orders on their books continued to rise, and at a higher rate than in February.
Richard Adams

■ OFFSHORE EQUIPMENT

Workers walk out over pay claim

Work was at a standstill yesterday at Amec Process and Energy's offshore fabrication yard in north-east England because of to a one-day walkout by all 1,750 hourly paid workers in pursuit of a 10 per cent pay claim.

The company, which says it must drive down costs to remain competitive and maintain a healthy order book, has offered a 3 per cent rise with any additional increase depending on productivity deals.

The Confederation of Shipbuilding and Engineering Unions has threatened to stage further strikes, with walkouts every Monday, unless the matter is resolved. Further talks between the CSEU and management will take place this week. The yard has been highly successful at winning orders in the past two years but the company says fierce international competition is driving down margins.
Chris Tighe

■ RIVER THAMES

Water levels threaten boat trips

Tour vessels and pleasure boats face cancellations of journeys on part of the river Thames in London because of unusually low river flows resulting from unseasonally dry weather, the Port of London Authority warned yesterday.

It said vessels navigating upstream of Kew, in the west of London, faced "worsening problems".

"It's only April and we are already facing the kind of problems we usually face in August after a very dry summer," it said.

Some boats ferrying tourists from central London upstream to Hampton Court had cancelled some services because of the risk of grounding. The government's Environment Agency, which has already declared drought conditions in south-east England and the east of the country, said yesterday that Thames water levels were at 37 per cent of their long-term average for the month of March.
Leyla Boulton

Success in winning contracts replaces acquisitions as principal engine of sales growth

Outsourcing boosts leading IT providers

By Paul Taylor in London

Information technology outsourcing contracts awarded by British industry and the public sector helped the top 10 software and computer services companies to increase their UK revenues by 29 per cent to £4.06bn ($6.45bn) last year.

The top 10 also consolidated their grip on the market, taking their share to 38 per cent, according to figures compiled by Mr Richard Holway, an industry analyst and publisher of System House, a UK computing industry newsletter.

"In previous years, acquisitions have been the main reason for the high growth rates of the larger companies," Mr Holway notes. "The only major acquisition of UK revenues in 1996 was IBM's acquisition of Data Sciences ... the major reason for high growth is undoubtedly the fact that these larger companies have been awarded the lion's share of new outsourcing contracts."

Electronic Data Systems, the US-based group, consolidated its position as the largest supplier of computer services in the UK.

EDS revenues grew 46 per cent in Britain to £765m as its contract with Rolls-Royce came into full effect, a contract with Airtours started and its work for the Inland Revenue grew significantly.

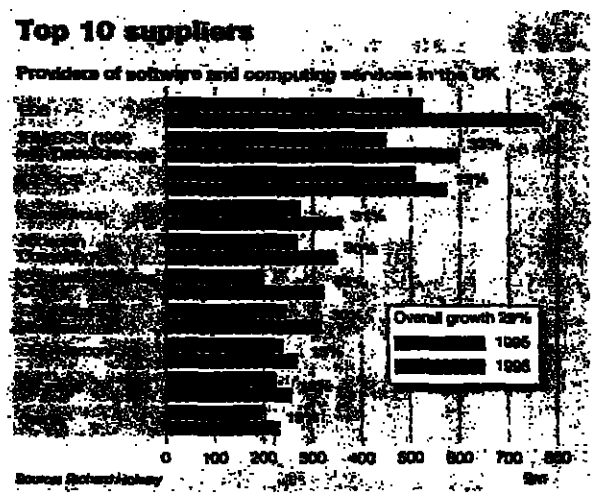
Computer Sciences Corporation, the sixth-largest computer services group in the UK, benefited from big outsourcing contracts with British Aerospace, Oxford Consortium and Lucas Industries. The UK operations of Sema Group and Cap Gemini also increased their outsourcing businesses rapidly.

"Those engaged in outsourcing produced by far the fastest growth rates," said Mr Holway. "Conversely, those with no outsourcing activities – GEC Marconi, Microsoft and Oracle – had the lowest growth rates."

Outside the top 10, the next 10 largest groups' revenues grew 16 per cent – near the industry average.

● Companies are more worried about the risk of computer crime than they are about product liability, fraud or theft, says the latest biennial survey of corporate risk published yesterday by Aon, one of the world's biggest insurance brokers.

"The increasing dependence of businesses on computer systems has made many more organisations vulnerable to the impact of computer crime," said the survey of 2,000 UK public and private organisations.



Hotels chief jailed for defrauding shareholders

By Robert Rice, Legal Correspondent

The former managing director of Resort Hotels was jailed yesterday for eight years for a £20m ($31.8m) fraud on the company's shareholders. He was also disqualified from acting as a company director for ten years.

Mr Robert Feld, 45, was convicted on three counts of making misleading statements and nine of forgery in connection with a 1992 rights issue.

The court heard that Mr Feld had lied about profit forecasts and about the company's indebtedness in order to ensure success for the rights issue. However, within two years the company's shares were suspended and it went into liquidation with debts of £140m.

Mr Anthony Evans, a lawyer for the Serious Fraud Office, told the jury: "Robert Feld was the driving force behind the business. He was Resort Hotels. Documents were forged by Mr Feld or on his instructions. Shareholders were induced to part with £20.6m."

Resort Hotels was admitted to the Unlisted Securities Market in 1988, later obtaining a full stock market listing. This allowed the company to expand rapidly. Three rights issues between 1988 and 1991 raised £30m. But in 1992 the group needed further share capital prompting the rights issue at the centre of the case.

For the April 1992 rights issue to be a success the profits forecast had to be in line with market expectations. City of London institutions had been forecasting a profit of £6m.

Mr Feld told Coopers & Lybrand, the company's auditors, that profits before tax for the year ending April 1992 would not be less than £6m, that the group's debt was £38.6m and that it had cash balances of £4m. These were deliberate lies, the court heard.

Shareholders in Resort Hotels lost their whole investment, their sole compensation a £250 voucher to spend at Jarvis Hotels, which had acquired Resort's assets.

Turkey's main utilities companies are moving slowly towards the private sector, but political obstacles remain, writes **John Barham**

Hunger for capital remains unsatisfied

Fifteen years ago Turkey opened a new international terminal at Istanbul's Ataturk airport. The Turkey of the early 1980s was a rejuvenated country, emerging from decades of state planning. A fine new airport terminal would become a gateway for the booming tourist trade and help establish Istanbul as a regional business centre.

According to the original plan, work on a second terminal was to start immediately, backed this time by private capital. But 15 years on, Istanbul airport still has just one international terminal, overwhelmed by a huge increase in traffic.

Governments have come and gone, as have plans for the new terminal. Political intrigue, government indecision, a hostile judiciary and bureaucracy are all to blame.

A similar fate has befallen other brave plans to harness local and international capital to build up Turkey's infrastructure, and so lay the foundations for vigorous sustained growth.

Instead, private capital plays a minor role while the state's investment budget dwindles.

Blackouts have become part of the Turkish way of life, as have water shortages, crumbling roads and city streets choked with traffic and pollution.

Yet business is confident that Turkey's awareness of the state's limitations are changing. Mr Zekeriya Yildirim, vice-chairman of the Doğuş Group, a conglomerate with many infrastructure-related projects, says: "I think that now public opinion has a real desire for stability, for growth and for more employment and to develop our infrastructure."

No country can develop without an adequate infrastructure. Turkey's overburdened infrastructure depresses its potentially high growth rate.

Deficient transport, water and power increase the cost of doing business in Turkey. Repairing and expanding these networks to cope with a growing and rapidly urbanising population imposes unbearable strains on the near-bankrupt treasury.

These themes, and the mechanisms to attract private capital to infrastructure projects, are the subject of a two-day conference sponsored by the Financial Times that begins today in Istanbul.

Underfunding and disorganisation mean expensive delays and starve essential services such as education and health of resources.

The State Planning Office said last year that delays due to insufficient government funding caused public projects to come in an average 2.4 times over budget. Istanbul's light railway was completed in 10 years instead of the planned three years and came in at over twice the budget.

The government has made a start in surrendering control to the private sector. It is transferring management of the electricity distribution system to private companies and leasing power stations to private operators. It has leased control of seven – admittedly minor – ports to the private sector.

TEAŞ, the state-owned electricity generator, expects half the $99.1bn investment needed to quintuple generating capacity by 2020 to come from private sources.

But financiers worry about Turkey's hunger for capital. An investment banker says: "There is no shortage of good projects. But there is a limit to the capital available for Turkey." Deteriorating public finances and stubbornly high inflation have led to sharp cuts in Turkey's credit rating, which further reduces the funds that capital markets are willing to commit to the country or raises costs.

Yet bureaucratic conservatism and lack of financial sophistication prevent the state from turning to cheaper capital market-driven alternatives, such as using the hard currency revenues of ports, airports and the international telephone network to back expansion projects.

Although opinion polls show a majority of Turks support greater private sector involvement in infrastructure, opposition remains ferocious. Mr Mümtaz Soysal, a constitutional lawyer and left-wing politician, has blocked the privatisation of Türk Telekom (TT), the telephone company and privately financed infrastructure projects for years by appealing to the courts – and usually winning.

Although the constitutional court cleared TT's privatisation in January, it still requires the public sector to retain 61 per cent of the shares. And Mr Soysal is not giving up.

He told a trade union rally in February: "The ports which are Turkey's gates, the factories which are the country's chimneys and the energy plants which are the country's furnaces, are being sold. This is not privatisation. This is downright robbery, theft and plunder."

Even business executives and financiers agree with Mr Soysal that the constitution – drafted by a supposedly modernising 1980-82 military government – imposes tight restrictions on private infrastructure investments.

This is because many Turks still fear surrendering state control over strategic assets to foreigners, as the Ottoman empire did in its dying days.

The constitution requires the Daniştay administrative court to approve and monitor concessions.

Broadly, any private company taking over activities formerly performed by the government is operating a concession.

However, financiers will not back projects subject to control of a Turkish court. They want disputes settled by international arbitration. The "concession problem" has sunk the Build-Operate-Transfer (BOT) scheme, pioneered by Turkey in the early 1980s, and seems likely to sink its successor, the Build-Operate (BO) scheme.

Under BOT, the government awards a project, such as a dam, to a private company. The company operates it for a long period to recover construction costs and earn a profit, after which it transfers the dam to the state.

BOTs are simple in principle, but in practice are fiendishly complex. The courts have cleared only 16 BOTs, of which six are major projects.

Under BO regulations announced a year ago the government hoped to sidestep the concession issue by not requiring that a project be transferred to the state.

Only non-public service activities would be considered for BO contracts. Legal experts doubt that judges will be any kinder to the BO system than its predecessor.

Meanwhile, about $4bn to $5bn worth of "priority" BO power project investments are on hold pending a court decision.

A multinational oil company executive trying to promote a $1bn power project says: "We need conditions that make the project viable. The constitution must be changed."

Finding a two-thirds majority in the 550-member parliament will not be easy. The government has a majority of just seven seats.

Politicians resist change because the public sector is such an important source of patronage.

Mr Alper Kaptanoğlu, group co-ordinator at Alarko, a big construction group, says the decisions politicians take "are related just to their benefits, not the country's". Appointments are made on political affiliation, not merit, he says.

The durability of the coalition government led by Mr Necmettin Erbakan, Turkey's first Islamist prime minister, is open to question. Many political commentators doubt his weak, divided government can take difficult decisions. Few expect the government to complete the first stage of its flagship privatisation of TT by the end of this year.

Mr Ahmet Çağlar, general manager of Enerjisa, a power company owned by the Sabanci conglomerate, says a solution "requires very strong leadership. Someone [must] come and say: 'This is the problem and this is how we will solve it'."

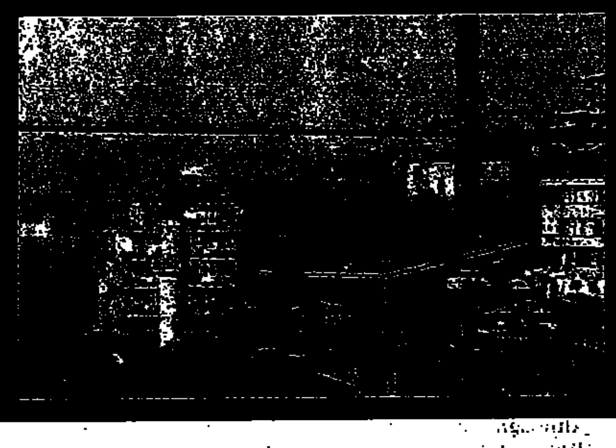
Politics and the legal wars over concessions and TT have overshadowed other important issues. The subject of regulation of the telecoms and electricity industries has barely been broached. Upgrading the electricity transport system is not attracting the attention it needs.

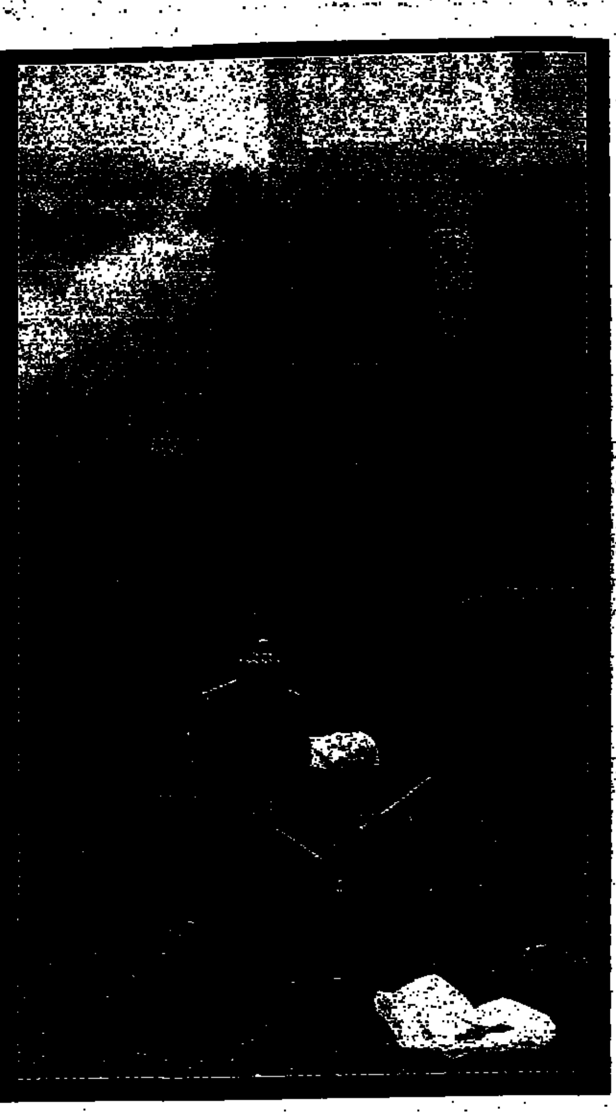
The government's pipeline monopoly is scrambling to secure enough additional natural gas imports to meet a steep rise in demand for household and industrial use.

The model for Turkey should perhaps be Latin American and eastern Europe where in many cases the entire state-owned infrastructure was swiftly moved into the private sector, backed by local and foreign capital markets and monitored by sound regulatory structures.

Yet optimists are right to argue that diminishing public investment or ideological conviction will eventually force the state to surrender its monopolies. Turkey's telephones, electricity industry, gas pipelines, oil refineries, roads and water companies – perhaps even Istanbul airport – should eventually become private corporations working in the public interest.

Change, however, is unlikely to be quick or smooth.





Water shortages are common throughout Turkey. Workers drill an artesian well (left) in the countryside.

Haydarpas, Istanbul's historic railway station (bottom left) was built in 1908. The station remained strategically important until the 1930s when travellers shifted to road transport. Today, there are severe traffic jams in Istanbul, especially over the Bosphorus bridges, one of which is pictured below centre.

The Tavsanli thermoelectric power plant (right). Its obsolete technology causes acid rain.

Survey pictures
Ümit Uzmay

FINANCING • by Metin Munir

Loans in limited supply

Lenders remain sensitive to political and economic upheavals

Turkey is one of the biggest and most profitable infrastructure markets, but funds are in short supply because of the government's low credit rating.

The country has not recovered from the loss of credibility after its 1994 economic crisis, when it abruptly lost its status as one of the best borrowers among emerging economies. Although the climate has improved slightly, lenders remain sensitive to political and economic upheavals which seem to have become the norm.

The international market for Turkish risk remains limited. Standard and Poor's, the Wall Street rating agency, has lowered Turkey's long-term foreign currency debt rating eight times since 1994, demoting it to single B last December.

Loans beyond one year maturity are rarely available. Spreads paid by Turkish banks change between about 0.85 per cent and 1.70 per cent – slightly higher than last year because of the heightened political uncertainty – depending on the borrower's perceived soundness.

Tenders have recently been received for six 700 MW power plants and six local electricity distribution companies which require a total investment of about $4.6bn.

"There is no way they can raise all of this money at once," said a European banker. "Probably half of it could be raised this year."

Mr Cafer Said Okray, an Ankara-based consultant, says that the total cost of the projects proposed by the government is $50bn. Mr Okray, who owns UDAS International Consulting and advises, among others, Mitsui of Japan, says his clients are amazed that "there is no scheduling – it looks as if they want financing for all projects. That's not possible".

Mr Ata K Seodlu, a managing director of Bear Stearns in New York, considers political volatility to be the main stumbling block facing Turkish borrowing. He says: "There is demand for Turkish risk but political uncertainty is blocking the money which could come – and at this point uncertainty is at its zenith."

This is unfortunate, because the economic need for the projects is very real and the rate of return for the investors is very attractive.

ING is one of the most active banks in project finance, with ABN Amro Bank, West LB, Chase, and to a more limited extent, Citibank.

Mr John McCarthy, general manager of ING Bank Turkey, says that in the energy sector, where the bulk of the infrastructure projects exist, the rate of return is 27 per cent to 30 per cent. This "is not as good as the Bosphorus Bridge", which is minting money, "but comes close", says Mr McCarthy.

Project finance for infrastructure development demands much longer tenors of between two and seven years and is uncommonly scarce. "That kind of money is not readily available and is expensive," says Mr McCarthy.

No deals have yet been concluded in any of the dozens of energy projects which the government has opened to private investors this year. There is no cost-of-borrowing benchmark. But one leading Turkish bank, which is reported to have earmarked $400m to finance power distribution franchise purchase, is demanding Libor plus 6 per cent plus a 1 per cent commitment fee for five-year tenor, according to market sources.

The projects which will attract the highest foreign investment are those which allow an efficient distribution of risk between the parties involved and have a short realisation period.

As a rule of thumb, natural gas power plants are the most attractive for foreign financiers, due to the shortness of the *construction* period (two years) and availability of export credit agency (ECA) loans, which enable public and private lenders to split the risk.

Hard fuel fired power plants take longer to build, cost more and are more difficult to finance.

The most difficult to finance are hydroelectric power plants. These have long construction periods (about five years) and a correspondingly long grace period, and because of low import requirements would have correspondingly small ECA support.

There is no ECA support at all in the acquisition of power distribution franchises and transfer of operation of power stations.

Mr Etham Tuncel, director of the project finance department of ABN Amro, says: "Airport and port projects are also of high interest to international financiers due to their foreign currency generation capabilities, predictable cashflow forecasts, availability of ECA financing and foreign developers."

The first Build Operate Transfer project, which could set a market precedent, was closed last November. It was for a 672MW hydroelectric power plant and dam in eastern Turkey at Birecik on the Euphrates. Financing was about DM2.3bn, making it the single largest finance arranged for a project in Turkey.

It took Chase Investment Bank of London, which was financial adviser, 10 years to complete the deal. The financing is made up of DM1.9bn of senior debt, DM300m of equity and DM100m of start-up revenues, according to Chase.

The senior debt includes export credit agency tranches guaranteed by Hermes of Germany, Ducroire of *Belgium, OKB of Austria* and Coface of France, and a commercial tranche of pure Turkish risk.

The debt was syndicated in a package of ECA to commercial debt on a ratio of 3:1. This ratio was one of the factors which made the deals attractive to commercial banks, by diversifying the Turkish risk.

The tenor of the ECA tranches is 15¼ years and eight years for the commercial tranche. The project will take 5¼ years to build. The company will operate the dam for 15 years before transferring it to the state.

"The risk is spread around pretty well," says a European banker. "The ratio which is purely Turkish risk is not so big, particularly if you spread it among a syndicate of 20 or more banks. And the return on the overall asset, blending in the export credit, is very attractive. The reward is very good and the risk is ameliorated by the export credit side."

Project sponsors included Philipp Holzmann of Germany, members of the Alcatel group in France and Belgium, Strabag of Austria, Sulzer Hydro of Germany and Gama of Turkey.

ENERGY • by John Barham

Ankara hopes to muddle through

Bankers believe the government will eventually solve its financing problems

Power cuts have become a well-established part of the Turkish way of life.

Nobody is exempt. Officials at Istanbul's city administration struggled to find enough power to make sure the pumps at a water treatment plant worked when Mr Necmettin Erbakan, the prime minister, ceremoniously pressed the starting button recently.

Blackouts are likely to become more frequent, last for longer and affect more and more people. The state-owned power sector cannot invest enough to meet demand growing at 8 per cent to 10 per cent a year. Although civil servants have warned for years that Turkey must invest at $2bn to $3bn a year in electricity generation and distribution, ministers are only taking action now.

Even if construction began now – progress is blocked in the courts – it would take about two years before the first new power stations began producing electricity. Companies are free to generate power for their own consumption, but are paid low prices if they sell to the national network.

Ankara has announced an investment programme to increase generating capacity fivefold in the next 20 years at a cost of $99bn – about half of which would be financed by private investors. Last year the government announced new rules allowing companies to build and operate power plants to government specifications, replacing the Build-Operate-Transfer (BOT) system, stuck for a decade in a legal quagmire.

The government selected five sites across the country for six "priority" power plants worth about $4bn to $5bn altogether, to be built under the new Build-Operate (BO) rules. Five power stations will be fuelled by natural gas and one by imported coal, for a total capacity of 5,200MW. If all goes well, they will start producing electricity by 2000.

Electricity: installed capacity (MW)

1990	16,315.1
1991	17,206.6
1992	18,713.8
1993	20,335.1
1994	20,857.3
1995	20,951.8
1996	[illegible]

Source: [illegible]

Electricity: forecast consumption per capita (kWh)

1996	1,520
2000	1,800
2005	2,300
2010	3,560
2015	4,498
2020	5,500

Source: [illegible]

The government specified not only the location, but the fuel and capacity of each unit. Dozens of international energy companies – mainly from the US – have submitted bids, and the winner will be chosen mainly by the electricity price to be offered to TEDAŞ, the state-owned distribution company. The lowest bidder will win.

Another seven BO contracts will be awarded at a less hectic pace. About $20bn-worth of hydroelectric contracts to be built under BOT regulations will also be awarded. Meanwhile, the state will invest about $61.5bn in projects of its own, such as a planned $1bn nuclear plant.

In spite of the cornucopia of projects and the attractions of Turkey's strong underlying growth rate, local and foreign companies are treading warily.

One reason is a long history of government bungling. Ms Şanda Bahadirli, assistant general co-ordinator at ATA, a big construction group, says "the energy industry is very profitable". She says this is largely thanks to government-guaranteed profits for recent BOT power projects to make up for sudden policy changes and delays caused by legal problems.

The entire Build-Operate scheme is suspended, probably until the summer, while the Daniştay administrative court hears objections from political opponents. Similar objections virtually paralysed BOT projects for a decade.

Others complain that the government will retain a heavy hand in a semi-privatised, barely regulated power industry. Natural gas is supplied by government-owned Botaş and electricity will be sold to TEDAŞ. Regulations governing the soon to be privatised distribution system are unclear.

Mr Ahmet Çağlar, general manager of Enerjisa, a power subsidiary of the giant Sabanci industrial conglomerate, says "the government says 'you will buy your fuel from me and you will sell your electricity to me'". So, once again, lenders to these projects demand government-guaranteed supply and purchase contracts. Mr Çağlar says: "This all becomes very complicated and expensive. [Decisions] are made on a case-by-case basis that gives [companies] little encouragement."

Gökova power plant: environmentalists are strongly opposed to it

Although the government is transferring the entire distribution network to private operators by splitting the country into 25 sectors, it has not explained how the new system will be regulated. Operators in each zone will want to increase revenues and cut losses and theft – which average about 18 per cent of electricity production – but executives worry about unclear guidelines on pricing, abuse of local monopoly power and transport rights.

A senior European manager says: "There is a certain co-ordination now, but privatisation without regulation will be complete anarchy." For instance, the government is not focusing on transmission. He says: "I can imagine in a few years there will be overcapacity in generation and there will still be shortages owing to lack of investment in transmission."

Companies are wondering if there will be enough natural gas – the fuel of choice for the new generation of power stations – to meet a sudden surge in industrial and household demand. Botaş is negotiating with Gazprom of Russia, Turkey's sole natural gas supplier for more imports along a new eastern pipeline and an expanded western link. There are plans for a second liquefied natural gas terminal at Marmara Ereğlisi.

The government signed a $23bn import deal with Iran last year, even though there is no pipeline linking the two countries. Neither does Iran have sufficient gas to supply Turkey. Financing this project will be difficult, given Washington's opposition.

Executives scoff at the notion that TEDAŞ or TEAŞ, its sister generating company, have the administrative capacity or political independence to act as impartial regulators.

In spite of the confusion, bankers and executives are guardedly optimistic that these problems will eventually be solved.

They say disorder is probably due to Ankara's inexperience in managing complex privatisations rather than to ill will. Ms Bahadirli says: "The private sector is going to solve [Turkey's energy problem]."

Pessimists doubt whether the government can institute a workable market for energy, let alone set up a regulatory framework or overcome opposition from courts, parliament and the unions. They would not be surprised to see ministers scouring international financial centres for expensive bank loans to pay for power stations.

Yet it is hard to see how the treasury, its credit standing savaged by Wall Street rating agencies, can borrow enough.

Turkey's great strength is an ability to muddle through, avoiding both optimum solutions and complete disaster. Ankara's handling of the energy crisis is unlikely to be any different.

LAW • by Asli Başgöz, Hugh Verrier and Zeynep Çakmak

Courts halt progress on power projects

Legal difficulties put private leasing programme on hold

It has been 12 years since Turkey first allowed private investment in the electricity sector under the famous Build Operate Transfer (BOT) model. Previously the industry was reserved for the state utility.

Although BOTs have since been widely implemented around the world – sometimes even called the "Turkish model" – it was not until last year that the first few international BOT power projects reached a financial conclusion in Turkey.

Emboldened by its success with BOT, and realising the urgency of its electricity needs, the government announced a series of private power tenders last year.

There have been 18 tenders, including more than 150 projects. The government decided that by leasing about 15 existing plants and granting distribution rights over more than 20 regional distribution companies, it could privatise substantial assets and raise money to address the budget deficit.

The government created a newer model for power generation, the so-called Build Operate (BO) model, and tendered six of the most important new projects on this basis. But when these BO bids were submitted in February an injunction from the Daniştay high administrative court put proceedings on hold.

According to press reports the Turkish Chamber of Electrical Engineers filed numerous lawsuits intended to stop all private power projects. It wanted BO projects to be subject to special scrutiny under the Turkish constitution as "concessions".

The Daniştay apparently agreed. It granted the engineers an injunction and is reviewing the merits of the claim. Earlier it invalidated a private distribution contract on these grounds, and in several decisions since 1992 it defined the meaning of concession to bring private power almost entirely within its dominion.

Unfortunately, not one private power project with international investment has been successfully developed in Turkey as a concession. It appears that the Daniştay has been seeking to revise the contract terms of projects submitted to it for approval in such a way that foreign participation or financing may be difficult.

In response to the Daniştay's decisions the government enacted a series of ultimately flawed legislative measures to define the nature of a concession. But the courts have invalidated them on constitutional grounds, reasoning that a concession must be defined by the courts.

Other lawsuits abound. The treasury's authority to issue guarantees to support BOT projects, which provides their financing backbone, has been challenged at the Constitutional Court. The Daniştay has not apparently ruled on a challenge against the first planned power station lease. Lawsuits against successful BOT projects have also been reported and more lawsuits can be expected.

At the root of the controversy is the simple political question: should the state be solely responsible for providing power? Those who seem to favour a state monopoly have chosen the legal battlefield, considerably slowing the introduction of private power.

Similar legal battles have slowed, but not stopped, the privatisation of Türk Telekom (TT), the fixed-line monopoly operator.

Attempts to privatise TT have been slowed by repeated legal challenges to the special privatisation enabling legislation promulgated in 1994, then amended by further acts in 1995 and 1996.

In preparation for its privatisation, the government split the PTT postal, telephone and telegraph service into two units in 1995. It created the General Directorate of Posts for postal services and a new company, Türk Telekom, to handle telecommunications services.

Twenty per cent of the proceeds is earmarked for investment in telecommunications services and a further 20 per cent in postal services.

The balance belongs to the Treasury and, according to the law, should be used primarily to pay down debt.

The government's Privatisation Administration carries out preparatory procedural work, but it is for the cabinet to approve the method and terms of sale.

The law retains the government's monopoly in core telecommunications services and it is not clear when, and how, competition is to be introduced. The company has signed revenue-sharing agreements – to be converted into long-term licences – with two GSM cellular phone operators. TT itself offers many other value-added services such as paging, data transmission, cable TV, and private virtual networks.

The privatisation law permits it to offer these and other services directly – they all form part of its franchise – or for the Ministry of Transport, which oversees the telecommunications industry, to license them to private-sector operators. The licences are to be granted to promote competition in the sector.

Many important decisions remain to be taken, such as the development of a regulatory framework. The final shape of the regulatory framework and other decisions, such as tariff policy, may determine the success of privatisation and the future of Turkey's telecommunications sector.

Asli Başgöz and Hugh Verrier are partners of White & Case, the US law firm. Zeynep Çakmak is a member of the Ankara Bar.

TELECOMMUNICATIONS • by John Barham

Phone wait may end soon

Officials say they hope to sell enough shares to raise at least $3.3bn this year

This may be the year that Turkey starts privatising its telecoms monopoly, Türk Telekom (TT).

It is more than two years since Mrs Tansu Çiller, then prime minister, first tried to sell the company. Statist stalwarts, led by Mr Mümtaz Soysal, constitutional lawyer, nationalist and leftwing politician, repeatedly blocked the deal in the courts. Then, in January, to the surprise of many and the joy of Turkey's financial markets, the constitutional court approved the company's privatisation.

In three previous rulings since 1993 constitutional court judges rejected government plans to sell TT. They required the government to retain 51 per cent of TT's shares and transfer a further 10 per cent to the postal service, from which the company was split in 1993. A further 5 per cent had to be set aside for employees and retail investors, leaving only 34 per cent available for big strategic investors.

Still, the ruling is an advance. It implies a judicial green light for other infrastructure-related privatisations, which have been stalled for a decade. It should also ensure that TT will be better managed.

Mr Cengiz Bulut, the company's general manager, says: "It will not be as bad as it is now. I am sure we will not be tied as much to bureaucracy as we are now." Approval for the company's investment budget is an intricate bureaucratic exercise. Rate increases to keep up with inflation must be approved by the prime minister.

The government has awarded a consortium of investment banks, lawyers and accountants led by Goldman Sachs the mandate for TT's high speed privatisation. Mr Bulut says: "The evaluation process will take five to six months and after that we will know how much to expect from the sale of shares."

Officials at the privatisation board say they hope to sell enough shares to raise at least $3.3bn this year. This is an ambitious target that few financiers expect the government to meet. Still, optimists say full privatisation of TT has become unstoppable. It is only a matter of time before opposition to TT's full privatisation crumbles in the courts, the bureaucracy and parliament.

Given that, for the time being, TT will remain in the public sector, it is hard to see how great an impact partial privatisation will have on management and the company's public sector ethos. There are no plans for an independent regulator. Bizarrely, the transport ministry will take responsibility for regulation while the treasury will represent the state as majority shareholder.

TT is consistently profitable. Last year it reported profits of $638.2m on revenues of $2.5bn and expects $1bn profits this year from $2.7bn to $4bn in revenues. Although it invests these earnings to expand the service, demand for telephone connections far outstrips supply. At peak times placing international calls, dialling between Istanbul and Ankara, or even within Istanbul itself, can be difficult.

Mr Bulut says TT installs about 1.2m to 1.5m lines a year, but waiting lists remain stubbornly long. Every year about 600,000 to 1m people apply for a new line but are turned down.

Demand for lines will probably remain strong for several years. By the end of this year, Turkey will have about 17m lines for a population of about 62m, equivalent to 27 lines per 100 people. This is about half the average in developed countries. Mr Bulut expects Turkey to reach saturation by 2000.

But it will surely take longer to raise revenues per line, indicating that there will be plenty of room for growth for many years. Mr Oğuz Tezmen, undersecretary at the transport ministry and a TT board member, says income per line in Turkey is just 10 per cent of revenues at Deutsche Telekom, Germany's telephone operator.

Unsatisfied demand is one reason behind the rapid growth in mobile telecommunications. Turkey may be a poor country, but taxi drivers and plumbers have mobile phones.

There are two competing GSM cellular phone networks which operate under licence from TT on a revenue-sharing basis.

Turkcell, the biggest mobile operator, had 554,000 clients last year and expects to sign up between 400,000 and 600,000 this year. Turkcell opened its doors only three years ago. Now the company – 51 per cent owned by local private investors and the rest by Telecom Finland and Ericsson, the mobile handset maker – is setting up a network in Azerbaijan and pushing for more deals in the Caucasus and central Asia.

TT's fixed line network is also growing quickly – the number of lines increased by 50 per cent between 1992 and last year – the systems tend to be state of the art.

Turkey boasts a high digitisation rate, with three quarters of its exchanges digital.

Even if the impact of semi-privatisation on TT's management is unclear, it may bring some far-reaching changes in its finances. At the moment its investment budget is restricted by government controls.

According to a well-established ritual, government planners appropriate a large chunk of TT's profits and the company's bosses claw back most of the money during the year with revised budgets.

Mr Bulut admits the company's financial systems are antiquated. Consultants from the Goldman Sachs-led consortium have started building new controls to make sure TT is ready for the markets later this year.

Its profits could even be ring-fenced from the government.

As a more market-oriented company it may start tapping international capital markets to raise finance to increase investment and profits.

Leyla Boulton on the search for underground sites to dispose of nuclear waste

US aims to bury the past

It has produced rioting in Germany, multi-billion dollar lawsuits in the US, and represents a poisoned chalice for whoever wins the next British general election in May.

The search for underground sites to dispose of highly radioactive waste which is piling up at atomic power plants comes to a head in the US next week, less than a month after the collapse of British attempts to begin work on a site near Sellafield.

US senators are expected to approve a proposal to force the Clinton administration to build a temporary storage site above ground at Yucca Mountain in Nevada – before a permanent dump underground there is approved.

The government, backed by Congress's watchdog on nuclear waste, is opposed to building a temporary site until research can demonstrate that Yucca Mountain would be a safe permanent repository.

Assuming it is passed by the House of Representatives, the industry-backed Senate plan could be stopped only by a presidential veto.

The Department of Energy, which has collected $12bn from a levy on electricity consumers to build a permanent repository, is under a legal obligation to begin taking nuclear waste off the industry's hands from next January.

The problem is that an underground repository would not be ready at Yucca Mountain before 2010 at the earliest. Successive administrations have dragged their feet in meeting an unrealistic 1998 deadline that was set under political pressure 15 years ago.

Senator Frank Murkowski, chairman of the Senate's energy committee, claims that failure to adopt his temporary storage plan will cost the US taxpayer billions of dollars in legal damages payable to the nuclear industry. "If the administration has a better idea that's fine, but for the moment this is the only game in town," he says.

William Barnard, executive director of the Nuclear Waste Technical Review Board, a monitoring body set up by Congress, notes, however, that the interim storage proposed by Murkowski would not in fact be temporary. Storing casks of waste on land, it would form an essential part of a permanent repository to handle and repackage spent fuel waste as it arrives for deep disposal. It would also require the construction of a special road or railway enabling delivery of the waste in special casks which have yet to be built.

In an attempt to placate its critics, the Department of Energy promises that an initial "viability" study on Yucca Mountain will be completed by the end of next year, suggesting that some kind of decision might be possible then.

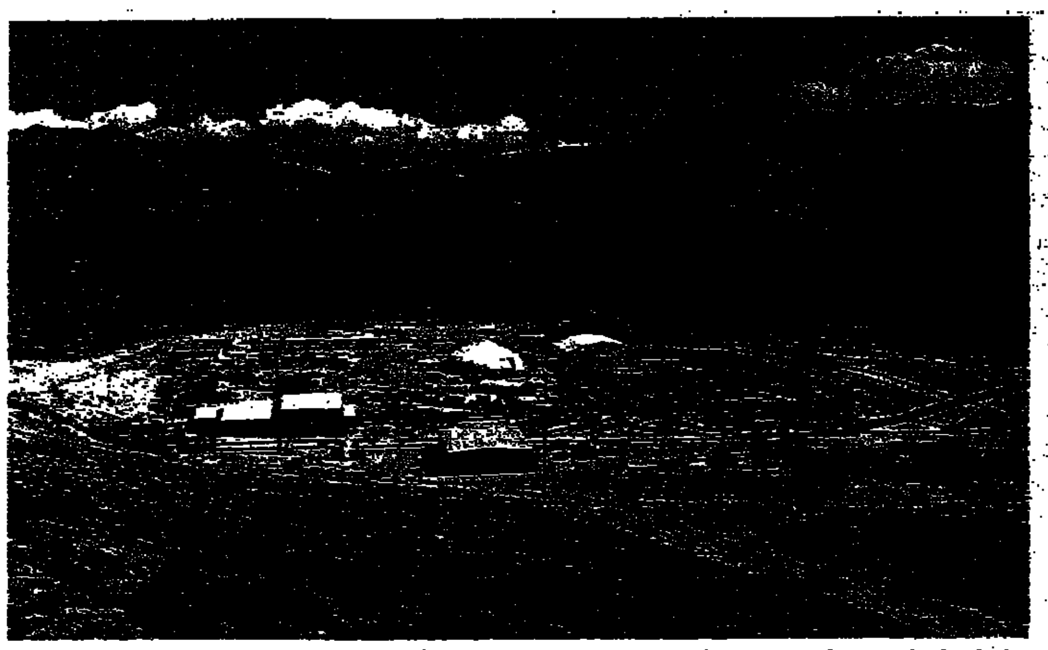
But Barnard's review board, the closest thing to an honest broker in this dispute, points out that a final decision will only really be possible in 2000 or 2001, once an east-west exploratory tunnel across the mountain has been completed.

The board adds, however, that it sees no problem in keeping the waste at 70 plants in 35 states until the turn of the century. Contrary to the warnings of Murkowski and industry lobbyists who warn of nuclear power plants being forced to shut prematurely, it says there is "no compelling technical or safety reason to move fuel to a centralised site . . . for the next few years".

But it is adamant that a national interim storage facility should be available at the turn of the century to stop waste being left behind at nuclear reactors as they are decommissioned.

"There is really only a difference of a couple of years between our positions," says Barnard, who concludes that the Senate's insistence on the 1998 deadline is more a matter of symbolism. "The government has an obligation, so what is it going to do about it?"

The Department of Energy is looking for ways of discharging its obligation, upheld by a court ruling last year, other than providing temporary storage in Nevada from next January. But a senior official says that "the issue of what [legal] remedy it has to provide and what liability it might face is all premature".



Exploration at Yucca Mountain: after spending $4bn investigating the site the US government is wary of going further

Kathleen McGinty, environment adviser to president Bill Clinton, is less diplomatic in rejecting the demands of the industry and Congress for interim storage at Yucca Mountain until a permanent repository is approved there.

"If Congress wanted to be really helpful, it could give us the tools to tackle this problem," she says. "It would not say 'we'll move this stuff come hell or high water'. The imperative has to be to answer critical public health and safety questions. The fact that this is a challenging process does not mean we should throw our hands up and do something precipitous."

But the administration's protestations have not stopped the industry, which last year successfully sued the government to confirm that it must take the waste after 1998, from launching a second lawsuit with dozens of state agencies.

Apart from maintaining pressure on the government to solve the problem, this aims to divert any further funds levied from electricity consumers into an escrow account until the Department of Energy starts work on a repository.

> **'There is going to be a lot of long-term uncertainty no matter where you build it'**

Christian Poindexter, chief executive officer of Baltimore Gas and Electric, one of the companies involved in both rounds of legal action, is worried that the money accumulated – at a rate of one tenth of a penny per kilowatt hour of electricity consumed – is being used to help plug the US budget deficit.

Prospects for a solution, however, look rosier than in the UK, which as of March 17 does not even have a credible site to argue over. But the fiasco suffered by Nirex UK, the state-controlled company set up to build a repository, also highlights the delicate balancing act required to secure a site.

The UK plan was compromised by more than a simple display of Nimbyism (Not in My BackYard) sentiments by Cumbria County Council, the local authority that withheld permission for an underground laboratory to explore the possibility of a repository.

Citing proof highlighted by environmentalists that the site's hydrogeology was unsuitable, the council also expressed fears that once built, the laboratory would constitute a Trojan horse for a dump.

More damagingly, an internal memorandum leaked earlier this year revealed doubts within Nirex about its ability to build a sufficiently robust preliminary safety case for a dump to justify investment in a laboratory.

Concerns raised by the memo, including the perception that Nirex had been economical with the truth in trying to push through a laboratory, was enough for the government to take the politically popular step of siding with the council.

Barnard appreciates some of the scientific uncertainties surrounding Nirex's quest to find a solution. "Rocks were not made to be licensed," he says. "There is going to be a lot of long-term uncertainty about any repository no matter where you build it."

But he also recognises the danger, identified by Cumbria, of what he calls "institutional momentum" – putting so much money and effort into researching a site that it becomes increasingly difficult to walk away from it even if it proves unsuitable.

Having spent $4bn exploring Yucca Mountain, the US government is unlikely to fall further into that particular trap by proceeding with a temporary storage site demanded by Congress.

Murkowski seems determined to generate precisely such institutional momentum when he mixes talk of a temporary site at Yucca Mountain with arguments in favour of building a permanent repository there.

While he feels "sorry for the Nevadans", Murkowski argues that Yucca would make an ideal dump site because it has already suffered radioactive contamination from its location on the edge of the US nuclear weapons test site.

For the nuclear industry, the success or failure of attempts to solve the waste problem is likely to play a part in determining how far into the next century it continues to operate in the US.

Baltimore Gas and Electric is not alone in running out of storage space for nuclear waste – it has room at its one nuclear plant until 2006. But Poindexter says it will need the guarantee of a permanent disposal site before it applies to renew the plant's operating licence for another 20 years.

Most industry experts agree that there is even less likelihood of new reactors appearing in the US in the absence of a repository.

How long a reactor can run to recover its costs, and how waste storage and disposal costs might have to increase are in turn bound up with a debate gathering pace in the US over how to deregulate the electricity industry.

Utilities, which depend on nuclear power for 22 per cent of electricity supplies, are arguing with the federal and local governments over how far they should be allowed to fix prices in a competitive environment in order to recover so-called "stranded costs". These refer mainly to investments in the nuclear industry that might not have been made in a deregulated market.

Although most experts expect the prohibitive economics of building new plants to ensure the US nuclear industry's gradual demise, some environmentalists are intent on exploiting the difficulties with waste to seal the industry's fate by opposing an underground repository.

"Nobody in their right mind would think of adding to the problem if there is nowhere to put the waste," says Mary Olson of the Nuclear Information and Resource Service, one of the US's anti-nuclear environmentalist groups.

Whatever the future holds for the nuclear industry, which is enjoying some growth in Asia and still hopes for a renaissance in the west, a powerful ethical argument can be made in favour of this generation tackling the nuclear waste problem before it gets handed down to yet another.

Locals dig in their heels over disposal

Disposal of waste is the nuclear industry's second-biggest challenge after the collapse in demand for new plants.

The consensus among scientists is that the safest way to dispose of spent fuel rods and other detritus that will remain dangerously radioactive for thousands of years is "deep geological disposal" – burying it in a hole in the ground.

But politicians face an apparently endless headache in trying to put that theory into practice as local communities, backed by environmentalist pressure groups, object to having the waste nearby.

"When scientists say this is the right way to do it, they always assume you will be able to find a suitable site . . . which may prove more difficult," admits William Barnard, executive director of the Nuclear Waste Technical Review Board, a group of scientists set up by the US Congress to monitor the government's progress in setting up a repository.

The US Department of Energy points to its plan to open by the end of next year a repository in New Mexico for plutonium-contaminated waste from nuclear weapons production as evidence that deep disposal is both politically and technically feasible.

But some observers question how realistic that deadline is in the light of disagreements with the Environmental Protection Agency on regulating the site.

They also expect new legal moves by New Mexico's attorney-general to try to block the opening of the Waste Isolation Pilot Plant, set up to bury the wastes in salt formations at Carlsbad.

LB

ARTS

French Television / Andrew Jack

Highbrow to barking mad

If the advertisements in French television listings magazines are anything to go by (and there are more than 10 uninspiring varieties on which to draw), the country's typical TV viewer is obsessed with slimming, psychic mediums, breast-enhancement and ugly factory-made Belgian furniture.

And judging by the recent output of the six national stations (not to mention dozens of cable and satellite equivalents), all but that last category are already amply catered for with either their own programmes or frequent references to them in the multiple variety shows which clog the channels.

This being France, of course, both Arte's *Philosophies* and France 3's *Grain de philo* are available for the discriminating viewer each week. The latter featured an incomprehensible discussion on the great Gallic thinker Michel Foucault, with contributions from among others a certain Sylviane Agacinski, whose recent media fame no doubt has nothing to do with the fact that she is the second wife of the leader of the Socialist party, Lionel Jospin.

But France 3's early Saturday evening variety show is probably more representative and certainly more widely watched. It has the rather cheeky title *Y'a pire ailleurs* (there is worse elsewhere), although that is probably a safe bet, given the number of new and dreadful concoctions coming on screen nearly every week.

In view of previous efforts, I must confess to not even taking the risk of inflicting on myself the latest offering from Nagui on TF1, called *You are not dreaming* – you probably wish you were. For there are more than enough existing distasteful competitors to provide anyone with their weekly fill.

After all, would even the surprise and pleasure of being reunited with long-lost relations or friends on *Perdu de vue* be worth it when it involves having to do so in front of a huge television screen, and then collapsing into tears for the pleasure of a voyeuristic audience?

And could TF1's *Sans aucun doute* really muster sufficient testimonials to fill a two-hour show dedicated to the subject of jealousy? Apparently so, with one woman happy to relate in detail how her fat husband – who believed she no longer loved him – had threatened her with a rifle before shooting himself through the head.

Her testimony was supposed to be tastefully leavened by inviting "comedienne" Elsa Zylberstein along too, to provide commentary. Since the stories related were hardly laughing matters, all the star could muster were the rather unprofound phrases "how horrible" and "how could anyone be like that?" Indeed.

More expert commentary came from the programme's resident "astro-psychologist", who was able to reveal to us the profoundly original thought (for which her clients apparently pay top-franc) that those who believe their partners are jealous should start by considering whether they themselves need to change their attitudes.

Far more seriously, M6's *Capital* last Sunday featured the equally bizarre concept of a dog psycho-analyst, available for a modest FFr700 an hour to tell stressed canine owners to lock their animals up in isolation more frequently, so that they learn the importance of independence.

He was interviewed as part of a fascinating documentary which showed that the French are even more eccentric and obsessed with pets than the English, with 29 per cent of the population claiming ownership of some 16m cats and dogs. Shame there was no explanation of why the hairy creatures are so numerous.

Still, we learnt that kennels in the shape of Louis XIV four-poster beds are on sale alongside electric toothbrushes specially designed for the mouths of our furry friends, and that animal food (typically with just 4 per cent meat or fish content) often sells in supermarkets at a higher price than the human equivalent because of the marketing costs.

We were even treated to a shocking revelation about those authoritative tweed-jacketed dog breeders who (in France too) dominate TV advertising for the cans of fat masquerading as meat. It seems they are often given vast quantities of free samples from the company being endorsed. Some even admitted to feeding rival brands to their animals from time to time.

Meanwhile, the suitably-named *Emmanuel Chain*, the compere who attempts to knit the show's mini documentaries together with studio discussions, had calmed down after his salivating performance while interviewing President Chirac in a TV debate last month. His lengthy barked questions had barely left the head of state with a chance to get a word in.

But just in case *Capital's* more house-trained studio discussion was not enough to keep us distracted, the camera operator frequently filmed the presenter from a dog-like position at his heels, or bounced away as if chasing after an imaginary bone to get a long-shot so distant that the interviewees were all but an unrecognisable blur.

Someone who turned on the programme halfway through to be greeted by the sight of copulating dogs might have thought that M6 had got confused when it turned the clocks forward earlier in the day. Its soft porn broadcasts do not normally start until around midnight.

It was a sight that might even have provided a first test for the new gimmick dreamed up by the CSA, the country's audio-visual regulator. It has had the idea of punishing broadcasters who have transgressed its rules by temporarily forcing them to transmit a black screen in place of their programmes.

But the most controversial recent emission in the last few days was beyond even the CSA's grasp, since it was not even broadcast, but sent on a video to doctors. The scandal was that it used a journalist, in a format very similar to a French TV news broadcast, to flog a new medicine.

That was judged particularly serious in a country which obviously takes its citizens for such fools that it considers it necessary to broadcast an image and the word *Publicité* (advertising) for several seconds ahead of each commercial break.

The single advantage the system offers is advance warning that what follows may be up to 20 solid minutes of often banal ads and tedious plugs for forthcoming programmes before the next scheduled item starts.

And things are set to get worse. A devious French ad agency has just unveiled a new "anti-zapping" strategy, buying simultaneous air time for a single client on all the principal channels, so that even if you flick stations, you cannot escape the message.

At least by rapidly flicking the page you can fast-forward past an advert in the TV listings magazines.

Opera

Strength without romance in Salome

The Royal Opera knows when it is on to a good thing. The performances of *Salome* that it gave two years ago were so widely praised for their high standards of music and drama, and so intricately put together, that the company has brought the opera back with virtually the same cast for this year's revival.

It is surprising that the main players have been kept in place for so long. Luc Bondy's production started life at the Salzburg Festival in 1992 and has already travelled widely: Brussels, Florence and Chicago have seen it, performances at the Théâtre du Châtelet in Paris are to come, and a BBC2 television transmission of this London revival is due. But without Catherine Malfitano in the title-role and Christoph von Dohnányi as conductor, it is difficult to imagine the production retaining its keen focus.

The strength of this *Salome* is that everybody has worked towards a single goal. Between them, Bondy, Dohnányi and Malfitano have stripped the opera of its late-romantic beauty. I doubt that either Wilde, with his bejewelled prose, or Strauss, with his glitteringly luxuriant orchestration, had in mind such a grim realistic drama, but its power is undeniable.

There was one moment – Salome was lingeringly unwrapping John the Baptist's head from its blood-soaked sheet – when the opera seemed sickening for the first time ever in my experience. Malfitano's Salome looks so much the petulant teenager that everything she does seems for real. She was also in good voice, though her soprano has little fat in the tone to spare, so the singing is always hard and forcefully projected.

The main newcomer to the production was Robert Hale's strong-voiced Jokanaan. Kenneth Riegel repeated his unhinged Herod and Anja Silja her domineering Herodias, a blonde society hostess well past her sell-by date, absolutely fabulous in every sense of the term. Ruby Philogene was the new, sultry-voiced Page and Robert Gambill a slightly strained Narraboth. Among the rest Peter Bronder's First Jew, Andrew Greenan's First Nazarene and Graeme Broadbent and Michael Druiett as the soldiers come across strongly.

My only serious complaint about the performance is that the orchestra is too loud: hardly a word in the first half-hour could be heard. Like the production, Dohnányi's cool-headed conducting shines a merciless spotlight on Strauss's score, revealing countless details with rigorous accuracy. I doubt the Royal Opera orchestra has ever played better and that alone is sufficient reason to see this high-quality evening.

Richard Fairman

Petulant and in good voice is Catherine Malfitano in the title role — Alastair Muir

Theatre / Sarah Hemming

Back to Fo's roots

In Britain we simply do not have an equivalent of Dario Fo, the charismatic writer and actor, whose combination of comic observation, skilled performance and radical politics have made him a household name in his native Italy. So it seems appropriate that in staging an English version of his *Mistero Buffo*, the solo show that has become his trademark, Oxford Stage Company uses a cast of six to represent his expansive and brilliant talent.

In a sense this staging of *The Comic Mysteries* (a co-production with Greenwich Theatre) reclaims the roots of Fo's plays since it places it in the hands of a group of players who slip in and out of roles, play instruments and sing, as their medieval counterparts must have done. A filleted version of Fo's text, translated by Ed Emery, the play is mischievous and driven by lacerating wit. The production is strong and the performances engaging and dignified. But what you don't get and what you miss is the touch of comic genius that has left audiences to Fo's performance weeping with laughter.

The show is an immensely skilful reworking of the Mysteries that draws on popular and comic tradition to create a vehicle for powerful contemporary satire. Fo builds on the role of the jongleur, or strolling performer, to both entertain and inflame. Several well-known episodes from the Bible are presented from an oblique angle. The effect is to fire a broadside at the pomp and circumstance that have grown up around the Church, while at the same time placing centre-stage the kind of people that Jesus sought to help. While never conscripting Jesus to his own political views, he cleverly reminds us of the subversive and compassionate nature of His teaching.

Thus the most acidly satirical scene in the show in which Pope Boniface VIII struggles to clothe himself in a little humility when he encounters Christ, is followed a little later by a harrowing and sober version of the crucifixion. Here we watch as two crucifiers compete over who can get the nails into Christ's hands with the smallest number of blows in a scene that brings home with shocking simplicity the brutality of death on the cross. Elsewhere, the slaughter of the innocents is presented from the perspective of a woman driven so mad with grief at the loss of her baby that she wanders around cradling a lamb. She could be a victim of atrocity from anywhere, or any time; the point made is that the sort of violence against which Jesus preached is still with us.

Where Fo would perform all this on his own, slipping from character to character and employing a made-up language, here the play is opened out and scattered around the six actors. Soldered together with the vigorous medieval songs that Mia Soteriou has collected, it makes a rousing piece of theatre. John Retallack's production uses Brechtian subtitles, stark lighting and striking blocking to increase the impact, and the cast work fluently and persuasively. David Brett is strong as the whey-faced little Jongleur, William Lawrence is funny as the posturing Pope, miming wittily with his hands to suggest a variety of absurd headgear, and April Clark plays Mary at the cross with a dry-eyed grief that is more powerful than any weeping or wailing. The production is strong on many counts but what it lacks is the ability to make you weep with laughter which has always been the most powerful weapon in Fo's armoury.

Greenwich Theatre to April 19 (Tel: 0181 858 7755), then on tour to Salisbury, Crewe, Huddersfield, Cheltenham, Bury St Edmunds and Oxford.

Theatre / Ian Shuttleworth

Honestly lacking purpose

One of the fallacies which dogs much of fringe theatre is that the phrase "trained in Paris with Jacques Lecoq" still functions as a guarantee of quality. In recent years, Lecoq alumni have grown so ubiquitous that it is almost more surprising to find a show which does not include a graduate.

Their ranks include all four performers and the director of Hoipolloi's latest production *Honestly*, at the Young Vic Theatre, which makes for 70 agreeable if hardly earth-shattering minutes. It suffers from the problem common to many devised shows – having determined a subject and even settled upon a plot of sorts, it remains devoid of purpose.

Honestly is set in a bewildering apartment block which not only exhibits the usual symptoms of depersonalisation and lack of community, but seems threateningly labyrinthine in itself. As new tenant Paul (Shôn Dale Jones) searches for his flat he encounters a couple playing sex games, a moral-crusading nutter and a lonely nerd, as well as a go-getting salesman, the menacing landlord and the grotesque concierge.

Although billed as "a maniacal comedy" and peppered with comic business the general mood of the piece moves from a banal but worrying voyeurism reminiscent of Roman Polanski's *Repulsion* into unmistakable Kafka territory; there are even overtones of H.P. Lovecraft, as the very layout of the building seems to alter so as to prevent Paul from ever finding Apartment 173.

On a set consisting of a couple of rolls of carpet and three columns which function as doors, walls or stairwells according to need, Dale Jones wanders around in increasing frenzy while Stefanie Müller, Gaetan Schmid and Jason Turner play their ever more cracked multiple roles around him. The emotional and intellectual observations on such a lifestyle which underlie the work are little more than truisms, and the resultant show is adequate if thin.

INTERNATIONAL ARTS GUIDE

■ **AMSTERDAM**

CONCERT
Concertgebouw Tel: 31-20-6718345
● Nederlands Kamerkoor: with conductor Daniel Reuss and pianists Wyneke Jordans and Leo van Doeselaar perform works by Brahms; Apr 4

■ **BERLIN**

DANCE
Deutsche Oper Berlin Tel: 49-30-3438401
● Ballett der Deutschen Oper Berlin: perform Oleg Vinogradov's (after Petipa) "Paquita" to music by Minkus, Kenneth MacMillan's "Concerto" to music by Shostakovich and John Cranko's "Onegin" to music by Tchaikovsky and Stolze; Apr 5

■ **COLOGNE**

CONCERT
Kölner Philharmonie Tel: 49-221-2040820
● Ursula Fiedler and Charles Spencer: the soprano and pianist perform works by Schubert; Apr 6

■ **COPENHAGEN**

CONCERT
Det Kongelige Teater - The Royal Theatre Tel: 45-33 69 69 69
● Royal Danish Chamber Orchestra: with conductor Josef Suk and violinist Lars Bjornkjfr perform works by Suk, Mozart and Dvorák; Apr 6

■ **LONDON**

AUCTION
Bonhams Tel: 44-171-3933900
● *Modern British Pictures*: sale including a number of works by *Sir Alfred Munnings*, including "Stable Boy on a Horse at Newmarket" and "The Artist's Wife on a Grey". There are also works by Phillip Wilson Steer, Laurence Stephen Lowry and William Hoggart; Apr 3

CONCERT
Royal Festival Hall Tel: 44-171-9604242
● BBC Philharmonic Orchestra: with conductor Yan Pascal Tortelier and the London Symphony Chorus perform works by Stravinsky; Apr 6
● Olga Dudnik: the pianist performs works by Beethoven, Haydn, Liszt, Scriabin and Rachmaninov; Apr 6

EXHIBITION
Royal Academy of Arts Tel: 44-171-4397438
● Braque: The Late Works: the first British exhibition to focus on the last 20 years of the career of Georges Braque, one of the founders of Cubism. On display are some 50 paintings covering all of the great cycles of work from his later years, including the "Interiors", "Billiard Tables", "Studios" and "Birds"; to Apr 6

■ **MADRID**

MUSIC PERFORMANCE
Fundación Juan March Tel: 34-1-4354240
● Miguel Angel Colmenero: performance by the trumpet player accompanied by pianist Sabel de Fátima Hernández. The programme includes works by Cherubini, Chopin, Beethoven, Mozart and Saint-Saëns; Apr 5

■ **MILAN**

THEATRE
Teatro Lirico Tel: 39-2-723 331
● La Villeggiatura: by Goldoni. Directed by Massimo Castri, performed by the Teatro Stabile dell'Umbria and Teatro Metastasio di Prato. The cast includes Sonia Bergamasco, Milutin Dapcevic, Pietro Faiella and others; from Apr 2 to Apr 10

■ **MUNICH**

OPERA
Cuvilliés-Theater - Altes Residenztheater Tel: 49-89-296836
● Parsifal: by Wagner. Conducted by Peter Schneider and performed by the Bayerische Staatsoper. Soloists include Marilyn Schmiege, Caroline Maria Petrig and Jennifer Trost; Apr 4

■ **NEW YORK**

CONCERT
Carnegie Hall Tel: 1-212-247-7800
● Murray Perahia: the pianist performs works by Chopin and Handel; Apr 5

EXHIBITION
The Metropolitan Museum of Art Tel: 1-212-879-5500
● Some Women: an exhibition of portrait busts of eight women, in bronze and marble, by artists including Rodin, Lehmbruck, Brancusi and Giacometti; to Apr 6

■ **PARIS**

CONCERT
Théâtre des Champs-Elysées Tel: 33-1 49 52 50 50
● Frank Peter Zimmermann and Louis Lortie: the violinist and pianist perform works by Brahms, Webern and Schumann; Apr 6

OPERA
L'Opéra de Paris Bastille Tel: 33-1 44 73 13 99
● Carmen: by Bizet. Conducted by Gary Bertini, performed by the Orchestre et Choeurs de l'Opéra National de Paris. Soloists include Franck Ferrari, LeRoy Villanueva, Sergei Larin, Gino Quilico and Franck Leguérinel; Apr 4

■ **ROME**

EXHIBITION
Palazzo delle Esposizioni Tel: 39-6-4742216
● Gran Tour: for many centuries Italy has enjoyed a reputation as home of some of the finest art and architecture. In the 18th century especially it became the destination for artists and writers, royalty and nobility, all of whom travelled there to absorb the atmosphere of antique ruins and seek inspiration from Renaissance paintings. This exhibition examines their journey and shows paintings, sculpture, drawings and prints from a range of international collections. The survey includes works by Batoni, Canaletto, Piranesi, Reynolds and Zoffany; to Apr 7

■ **ROTTERDAM**

CONCERT
De Doelen Tel: 31-10-2171700
● Rotterdams Philharmonisch Orkest: with conductor Kees Bakels perform works by Puccini and Leoncavallo; from Apr 5 to May 6

■ **STOCKHOLM**

CONCERT
Stockholms Konserthuset Tel: 46-8-7860200
● Vladimir Ashkenazy: the pianist performs works by Mozart and Chopin; Apr 6

■ **STRASBOURG**

MUSIC PERFORMANCE
Palais de la Musique et des Congrès Tel: 33-388 37 67 67
● Wiener Symphoniker: with conductor Georges Pretre perform works by Brahms; Apr 4

■ **THESSALONIKI**

EXHIBITION
Thessaloniki Cultural Capital '97 Tel: 30-31-867860-6
● Albin Brunovski: exhibition of work by the Brataslavian-born engraver, consisting of pieces from all stages of his career. The exhibition, the artist's first retrospective in Greece, takes place at the National Bank of Greece Cultural Centre; from Apr 4 to Apr 26

■ **WASHINGTON**

EXHIBITION
National Gallery of Art Tel: 1-202-7374215
● Splendors of Imperial China: Treasures from the National Palace Museum, Taipei: display featuring some 100 paintings and calligraphic works, as well as more than 200 jades, bronzes, ceramics and other decorative arts. There are many T'ang, Sung and Yüan masterpieces and examples of imperial ceramic ware from the Sung through to the Ch'ing periods; to Apr 6

Listing selected and edited by ArtBase The International Arts Database, Amsterdam, The Netherlands.

Tel: 31 20 664 6441. E-mail: artbase@pi.net

WORLD SERVICE

BBC for Europe can be received in western Europe on medium wave 648 kHZ (463m)

EUROPEAN CABLE AND SATELLITE BUSINESS TV

(Central European Time)

MONDAY TO FRIDAY

NBC/Super Channel:

07.00
FT Business Morning

10.00
European Money Wheel
Nonstop live coverage until 15.00 of European business and the financial markets

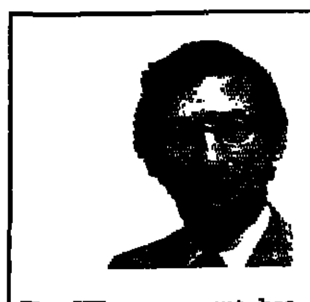
17.30
Financial Times Business Tonight

CNBC:

08.30
Squawk Box

10.00
European Money Wheel

18.00
Financial Times Business Tonight



Ian Davidson

A budding agenda

Three contentious issues are emerging for the summer summit in Amsterdam on the future of the EU

The UK government has long downplayed the significance of the intergovernmental conference (IGC) for reforming the European Union. It opposes all the reforms proposed by Germany and others for strengthening political integration. And it would like to put it about that the entire exercise can be written off as a non-event.

Superficially, events have seemed to confirm this judgment. The conference started in March 1996 and is not due to wind up until the Amsterdam summit in June – yet nothing much appears to have happened.

The negotiations scarcely ever get into the headlines. When they do, it seems to exhibit mainly those defects that give the EU such a bad name: incomprehensible complexity and interminable delay. The casual observer might think the intergovernmental conference is turning out to be like the negotiations for the Maastricht treaty, only more boring.

But the draft treaty, tabled last week by the Dutch government, which holds the EU presidency, suggests such a casual observer would be mistaken. The negotiations appear to be shaping up in quite a significant way, with the prospect of a substantial agenda for the Amsterdam summit around three main issues.

First, the Dutch draft puts forward proposals for strengthening the development of a common foreign and security policy. In parallel, France and Germany have tabled a plan for moving by stages towards a European defence policy, by gradually merging the Western European Union defence grouping into the EU.

Second, there are proposals for moving towards more effective co-operation on justice and home affairs, especially by developing common European policies on free movement of people, immigration and asylum.

Third, and politically the most significant, the Dutch draft contains a scheme for what is called "flexibility", which would allow a vanguard of more enthusiastic member states to integrate more closely and more rapidly than the others. This would be an important departure, since the Union has been based on the idea that all member states must adopt all policies together. If adopted, it would in theory open the door to a multi-tier Union.

But it was the somewhat unexpected Franco-German plan, for a progressive merger of the Western European Union and the EU, which last week attracted most attention. Just what such a merger would really achieve is a bit vague, but there is certainly powerful political symbolism in the idea.

At present, the only European defence co-ordination is through the Western European Union, which has effectively delegated policy to Nato. Thus no European country can be a full member of the WEU unless it is also a member of Nato.

A complete merger of the WEU and the EU would be the first step towards a European defence policy independent of Nato and the Americans.

In practice, I doubt whether Amsterdam will see any rapid progress towards common foreign or defence policies. A common foreign policy cannot be imposed through majority voting. And any commitment to a merger of the WEU with the EU will no doubt be blocked by the four neutral member states (Austria, Finland, Ireland and Sweden), never mind the British.

By contrast, there seems much more political momentum behind the proposals for closer integration on justice and home affairs. At present these issues are handled on an intergovernmental basis – that is to say, individual member states can veto any change. This means co-operation moves at a snail's pace.

Spectacularly, the Dutch are proposing that co-operation on questions of asylum, immigration and freedom of travel between member states should become part of the core EU agenda – with a commitment to adopt common or harmonised policies within a fixed time limit. Such policies would thus also be subject to the arbitration of the European Court of Justice.

These proposals have the makings of a serious showdown between the UK and the rest. A large majority of member states is in favour of closer European integration in immigration, asylum and freedom of movement; but this is absolutely opposed by both the present British government and the opposition Labour party.

There seems likely to be a similar line-up over the third set of proposals in the Dutch draft treaty, for so-called "flexibility". The idea of a multi-tier Europe is open to serious objections. It looks like a recipe for disintegration, not integration; and it will be difficult for the EU's institutions to operate if groups of states are committed to different sets of policies.

But some version of "flexibility" has become essential, if only as a way of circumventing persistent UK opposition to all forms of closer European integration. And the idea has gained momentum as a way of handling the prospective difficulties of admitting to membership the much less advanced countries of eastern Europe.

At the Amsterdam summit, therefore, it seems increasingly likely that one of the big questions for the EU will be whether to move towards a system with the potential for multi-tier integration and, if so, on what terms and conditions. The UK's Conservative government is claiming the right to block any resort to flexibility to avoid being sidelined against its will. But if Labour wins the general election on May 1, it might find flexibility attractive, precisely because it would allow the UK to adopt its own pace in Europe.

LETTERS TO THE EDITOR

Number One Southwark Bridge, London SE1 9HL

Government exacerbates dividend problem

From Mr John H. Mulvey.

Sir, Tony Jackson revisits ("The dividends dilemma", March 29/30) the vexed question of short-termism in the UK economy. All sides deny responsibility for it, some even that it exists. But Jackson's comparison of the UK with the US, where investment as a proportion of earnings in the non-financial sector is higher and yields are lower, is convincing evidence. As he says, "high payouts and low investment are a symptom of malaise" and "are unsustainable in the long run".

When he offers as explanation that British managers don't invest because they "have run out of ideas" and think their shareholders can find better investment opportunities elsewhere, is he really saying they are incompetent? In a time of rapid scientific and technological developments, the potential for improved products and the creation of new markets has never been greater.

The overseas-based companies that have taken control of large slices of UK manufacturing industry – and are now among the nation's leading employers – have not run out of ideas, nor are they unable to make the investment needed for their development.

But they all have governments (and this includes the US), ready in various ways to bear a greater share of the risks inherent in the costly, long-term investment in innovation and development between concept and successful product – bridging the "development gap".

Uniquely among leading countries, Britain has a government which has cut support for research and development dramatically in real terms over the past decade, and offers no significant fiscal incentives for increased investment. The Department of Trade and Industry has almost ended support for civil industrial R&D, now £700m per annum less.

Jackson says, "The dividend issue will not go away". Unfortunately there is every likelihood it will: when there are no British-run companies left to pay high dividends and most of the revenue from their profits accrues to other, less short-termist, governments.

John H. Mulvey,
executive secretary,
The Save British Science Society,
PO Box 241,
Oxford OX1 3QQ, UK

Too much of a rush for gold

From Mr Charles Kernot.

Sir, Sitting in Jakarta I am shocked and amazed by the howls of anguish that appear to be coming from other mining analysts about recent developments at Busang. To put it into perspective, drilling at Papua New Guinea's Lihir project took much longer than two years to delineate its gold resources. Indeed, while discovered in 1984, the mine is only now on the verge of production. And although gold was first found in South Africa's Witwatersrand in the 1880s, it was not until the much later discovery of the West Wits line that the full potential of the region became clear.

As a consequence I am saddened that so many of my colleagues appear to have been taken in by these events – especially because I was aware of others' comments questioning the validity of Bre-X's drilling methodology.

Perhaps this is a further example of why Canada, despite claims to the contrary, is unlikely ever to replace London as *the* centre of mining finance expertise.

Charles Kernot,
mining analyst,
Banque Paribas (London),
c/o Holiday Inn,
Jakarta, Indonesia

Tigers squabble in an unseemly catfight

From Ms Teresa Wyszomierski.

Sir, In the interest of ending the squabbling between Malaysia and Singapore over Lee Kuan Yew's disparaging remarks about Johor ("Malaysia links with Singapore at 30-year low", March 27), I suggest that prime ministers Mahathir and Goh ask themselves the following question: How much longer do they realistically expect the US to remain the sole guarantor of Asia's balance of power?

Surely Malaysia and Singapore have a much greater stake in Asian stability than the US. Yet they make no credible effort to formulate a co-ordinated regional response to possible Chinese aggression, preferring instead to stage the international equivalent of a catfight.

Is this any way for Tigers to behave?

Teresa Wyszomierski,
61-37 56th Avenue,
Maspeth,
New York 11378,
US

Impatient to criticise

From Mr Richard Linning.

Sir, Could you please explain *how* the FT was able to criticise an event ("Oscar's rewards", March 25) in your editorial which it was unable to report until the following day ("Oscars crown recovery of film sector").

True, one could anticipate "film stars who gushed", a "ceremony [which] encapsulates Hollywood's relationship with celebrity", but it was possible that, for once, the spotlight might just shine on those who have not already joined the club.

In fact, the success of *The English Patient* indicates that on Monday night it did.

Richard Linning,
senior consultant, partner,
PRP,
5 Avenue Roger Vandendriessche,
B-1150 Brussels, Belgium

Shell should back cleaner fuels move

From Mr Måns Lönnroth

Sir, The article by Stefan Wagstyl and Robert Corzine about Shell and the environment was most welcome ("Rights and wrongs", March 18), even if, as Tony Juniper of the Friends of the Earth subsequently noted (Letters, March 22/23), the jury is still out.

Let me mention an issue which would help the jury: Shell's future position on the auto-oil directive of the European Union. A recent study commissioned from Arthur D. Little by the Finnish and Swedish governments shows that a 30 and 50 ppm sulphur level in gasoline and diesel fuel respectively, rather than the proposed seven times as large levels, would lead to much reduced emissions of nitrogen and sulphur oxides as well as hydrocarbons and particles.

Cleaner fuels also open up the possibility of introducing an up to 35 per cent more fuel efficient gasoline engine.

All in all, cleaner fuels would also be of help in addressing the extremely bad air quality in many European cities (see the Financial Times article, "Paris turns towards nanny for fresh air", March 24), as has been well demonstrated in Swedish cities.

Shell, as well as the other leading oil companies, would do the environment, the human health as well as itself a not insignificant service by breaking ranks with the European oil industry and join the European parliament in a forceful backing of the Finnish and Swedish proposal. As they say, the proof of the pudding is in the eating.

Måns Lönnroth,
state secretary,
Ministry of Environment,
S-103 33 Stockholm,
Sweden

By the same standard

From Mr David Crosby.

Sir, In his letter criticising the FT for siting a Canadian national park in the wrong province (March 29/30), Mr Robert Hage describes his address as being on the other side of "Le Manche", when actually he means "La Manche".

If he is so exacting on your knowledge of Canadian geography I see no reason why the same standard should not be applied to his.

David Crosby,
9 Stephen Lane,
Dedham, MA 02026,
US

This is the age of the tilting train, says **Charles Batchelor**

New angle on high-speed transport

Speak to train enthusiasts about the journeys they would most like to make, and chances are they will mention one of the high-speed trains running on specially-built lines such as France's *trains à grand vitesse* (TGV).

Futuristic trains streaking at 300kph down arrow-straight level tracks have given a new glamour to rail travel and brought cities in Europe closer together.

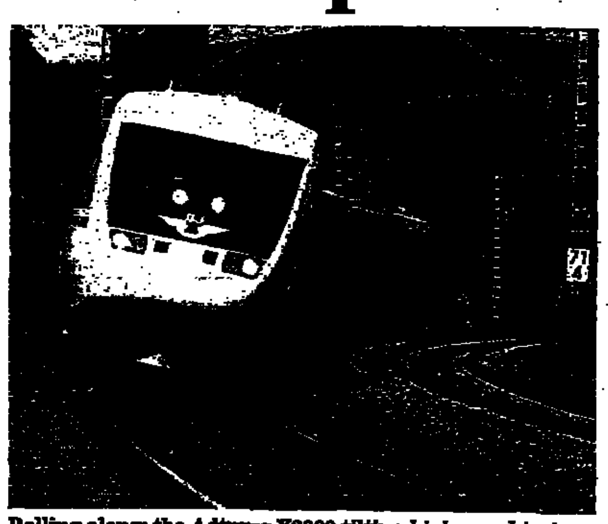
But a new generation of tilting trains in Europe and Japan has focused attention on a form of high-speed travel that may be much more suitable for countries where cities are closer and very high running speeds can be achieved only for short distances.

Tilting trains running on conventional track offer the prospect of much shorter journey times on large stretches of the world's railways – without the cost and difficulties of constructing new lines or realigning old ones.

"We used to regard tilting technology as rather exotic in the 1980s," says Mr Wolfram Martinsen, president of Siemens Transportation Systems. "Now we regard it as the most important upcoming market segment."

Adtranz, the Swedish-Swiss-German rolling stock manufacturer, calculates that Swedish Railways has spent just $500,000 upgrading a kilometre of track for tilting services. Each kilometre of new dedicated high-speed line cost SNCF, the French state-owned railway company, $10m.

The introduction of tilting trains in southern Sweden has cut the journey time between Stockholm and Gothenburg by nearly one hour since 1990 to just under three hours – helping arrest the decline of Swedish Railways.



Rolling along: the Adtranz X2000 tilting high-speed train

"Tilt has been both a technical and a commercial success," says Mr Thomas Holmquist, export manager Europe for Adtranz, which makes the trains.

Tilting trains offer higher speeds and shorter journey times because the carriages lean into curves. A degree of tilt is normally built into rail track at curves, but additional tilt is needed if the passengers are not to be pushed to the outside of the curve by the centrifugal force. But too much tilt can induce sickness since the passengers' eyes register the curve but their stomachs are fooled into thinking they are sitting upright.

This was the mistake British Rail, the recently privatised UK train operator, made with its Advanced Passenger Train 16 years ago. Its first attempt to master tilting technology kept breaking down and passengers complained of feeling queasy. The train was withdrawn after just three days of scheduled services.

Designers now aim to compensate for only 60 per cent to 70 per cent of the sideways pressure to avoid nausea. And once passengers are comfortable, tilting allows trains to increase speeds by up to 40 per cent. Because the train is not constantly braking and accelerating, there are savings on energy consumption and brake components.

The Italians have been the most successful in building tilting trains and Fiat Ferroviaria, the rail equipment arm of the carmaker, is now making the third generation of its Pendolino. Italian Railways use them extensively while Fiat has also sold its trains or supplied Pendolino technology to Spain, Germany, Switzerland, Finland and the Czech Republic.

The Fiat system is employed in 1,140 carriages or nearly 60 per cent of the 1,940 tilting carriages in use or on order in Europe and North America, followed by Adtranz with more than 530 and Bombardier with 260, according to Railway Gazette magazine.

Many rolling stock manufacturers and rail managers now believe tilt will make a much greater contribution to improving rail travel over the next two decades.

Amtrak, the publicly funded US passenger rail operator also plans to start tilting train services on the north-east corridor between Boston and Washington, cutting journey times from eight to five hours. And even the French are considering tilting trains as the financial returns from new high speed lines have fallen.

In the UK, the privatisation of BR has raised the likelihood of a second attempt to run tilting trains, on the west coast mainline which links London, Manchester, Birmingham and Glasgow.

Mr Richard Branson's Virgin Rail, which has a 15-year franchise to operate trains on the line, plans to replace most of the line's existing trains with a leased fleet of 40 tilting trains. At 200kph, these would cut more than an hour off the 5½ hour journey between London and Glasgow.

According to Mr Chris Adams, engineering development manager at Angel Train Contracts, the rolling stock leasing company: "Tilt can now be regarded as a mature technology whose risks are reasonably well understood and acceptably low."

FINANCIAL TIMES

Number One Southwark Bridge, London SE1 9HL
Tel: +44 171-873 3000 Telex: 922186 Fax: +44 171-407 5700

Wednesday April 2 1997

Open skies in Europe

From yesterday any European airline will be allowed to operate anywhere in the European Union. This step completes the liberalisation of the internal aviation market that began a decade ago. The question, however, is what it will mean in practice. Will passengers come to regard it as a red letter day or an April fool's joke?

The short answer is that a swift revolution in European aviation is unlikely. Yet even if the pace of change is glacial, powerful competitive forces are now at work. Over time they are likely to transform the industry's traditional landscape.

Such a transformation is needed: fares remain far higher than in the US, while some of Europe's principal state-owned airlines still need to feed from the subsidy trough. This combination of high fares with persistent losses is a startling indicator of inefficiency.

The desired competition will become effective only if entry by efficient new suppliers is a plausible threat. In principle, it already is. Established airlines can, for example, set up operations within hitherto protected domestic markets, as British Airways has done in Germany and France. In addition, low-cost airlines such as Ryanair and Easyjet have both penetrated existing markets and generated new ones, by offering services at lower fares.

Yet the new entrants confront two serious obstacles. The first is a shortage of slots. Except in Heathrow and Frankfurt, this is not a question of physical capacity, but rather of political obstruction. Instead of being encouraged to expand their business, airports are too frequently subjected to national policies aimed at supporting domestic flag carriers.

Reallocation of slots with substantial scarcity value is less important than allowing more operations where such scarcity does not exist. The reason is simple: where slots are scarce, the market clearing price for travel is likely to be high, whoever runs the flights or however many airlines control the slots.

The other big obstacle to new entry is predatory behaviour by existing airlines. If, in particular, a potential entrant knows that a subsidised competitor will always have enough money to continue operating on its traditional scale, it may not bother to enter at all. This is why it is so important to eliminate state-supported dumping.

This liberalisation is definitely not an April fool's joke. It should lead, over time, to more competition, lower prices and a restructured industry. But the Commission must not rest on its laurels if the potential of the policy is to be realised in the near future. It must now concentrate its efforts both on increasing the supply of slots to efficient new competitors and on reducing the availability of subsidies to inefficient old ones.

Banks hang on

Japan's troubled banks have reason this week to be thankful. Their year-end balance sheets were struck on March 31 before Wall Street's slide had the chance to turn into something big. Despite heavy selling of bank shares on the last day of the year, the Nikkei 225 index closed just above 18,000. At that level the value of the equity holdings of some weaker banks will probably be insufficient to prevent breaches of the Bank for International Settlements' capital adequacy regime. Yet it could have been worse.

Since the beginning of the *year confidence in the ability of* the banks to muddle through has been eroding. Bank shares have had to cope with worries about the potentially destabilising impact of Tokyo's 'Big Bang'. This has been exacerbated since last week by the problems of Nippon Credit Bank, which has seen the yield on its debentures rise sharply in recent months relative to those of the other long term credit banks. The fear, as with the earlier restructuring of the *jusen* housing loan corporations, is that sound banks will be weakened through enforced participation in a rescue.

For want of a substantial and politically unpopular injection of public funds, the stage is set for a slower-motion restructuring of the financial industry than the label 'Big Bang' implies. That could be unhealthy. By contrast, a shock induced by a panicky reaction to the bank reporting season in May would be more risky – but it would arguably be beneficial if it broke the political impasse over the use of public funds.

There is clearly excess capacity in Japan's financial services industry. Reducing that capacity will impose burdens on larger firms, as increased competition drives smaller firms into their arms. Yet the profitability of the financial system should not be underestimated. Even after the bull market in *bonds, negligible short term* borrowing costs ensure that the yield curve remains steep, leaving banks with profitable trading opportunities. Margins on lending are unprecedentedly high. And unlike British brokers before 1986, Japanese securities firms are well capitalised.

Insurers, admittedly, have serious solvency problems. Yet here, liberalisation will help, if it entails more professional (and increasingly foreign) fund management, together with increased investment in higher yielding overseas assets.

The whole system needs more competition. But as it restructures, it is vital to guard against moral hazard. That means that bank depositors must be taught to recognise that when government guarantees run out in 2001, their money is at risk.

Zwischenland

For 200 years or more, the lands between Germany and Russia have had a hard time of it. That is why Poles, Czechs and Hungarians are now so determined to enter Nato, hoping to escape that tragic destiny once and for all. But while the west thus expands, Russia has shrunk, leaving a belt of newly independent states between its main land mass and the putative new eastern frontier of Nato.

Were there to be a new cold war, or worse, a hot one, the fate of this new *glacis* could be as unpleasant as that of the old. Both Nato and Russia have a responsibility, and an interest, in seeing that no such nightmare comes about. Nato accepts that, at least in the near future, this cannot be done by expanding further to take in the states in question. But Russia, humiliated by the "loss" of Poland, has mumbled that it might react by binding its nearer neighbours in a tighter embrace.

Today's planned "union treaty" with Belarus is probably meant to look, to Russian nationalists, like the first step in implementing those threats. Luckily reality is different. Russia and Belarus already formed a "community of sovereign republics" a year ago, and it is not certain today's "union" will feel any different in practice. "Some people are asking," says Mr Valery Serov, the Russian deputy prime minister who co-authored the draft, "'In what country will we wake up on April 3?'. The answer is: In the very same country you went to bed. There will be a union of two states rather than a single state."

The draft treaty is especially coy about plans for a single currency, with good reason. As Mr Serov's remarks suggest, Russian opinion is by no means uniformly enthusiastic about bailing out a hopelessly mismanaged Belarus economy, nor about taking responsibility for the repressive and eccentric behaviour of Mr Anatoly Lukashenko, the Belarus president. For his part, Mr Lukashenko (rather like the late Archbishop Makarios in Cyprus) will hardly push his enthusiasm for *enosis* to the point where the mother country could order him about or even push him aside.

More significant than today's ceremonies in Moscow may be the visit of General George Joulwan, Nato's supreme allied commander to the Ukrainian capital, and the fact that it has not stopped President Boris Yeltsin from adopting a new and more conciliatory tone towards Ukraine. Russia may be able to dictate terms to Belarus, but it is in no state to force its will on Ukraine or indeed on the Baltics, and Mr Yeltsin knows it. In today's *zwischenland*, friendship has to be earned, not imposed.

Exchange of hostilities

New German telecoms groups are preparing to take on Deutsche Telekom after liberalisation next year, says **Ralph Atkins**

The nerve centre of o.tel.o, a new German telecommunications company, resembles the control room of a space agency, with more than 100 computer terminals housed in a sleek office building in Cologne. The banks of screens, which show o.tel.o's national telecoms grid, flash whenever there is a fault. But for much of the time, seats at the terminals are empty.

The company – owned by Veba and RWE, two large energy and industrial conglomerates – is investing DM7bn ($4.2bn) in preparation for an event that has yet to happen: the liberalisation of Germany's telecoms market on January 1 1998.

On that date, Deutsche Telekom – Europe's largest telecoms group – will lose its monopoly of public voice-telephony services. The market will be thrown open to competition offering the opportunity to win a share of one of the world's largest and fastest-growing markets, expected to be worth DM100bn by 2000.

"Our goals are clear: o.tel.o is to provide the full spectrum of communications services and occupy one of the foremost ranks in competition," says Mr Ulrich Hartmann, chairman of Veba.

Other large German groups racing to build rival general telecoms businesses include Viag, the Munich-based industrial conglomerate, which has teamed up with the UK's British Telecommunications. Mannesmann, the industrial conglomerate that once focused on traditional steel tubes products, has joined forces with Deutsche Bahn to build an alternative telecoms network along the railway operator's tracks. Meanwhile, other companies are building telecommunications businesses in some of Germany's largest cities.

But these contenders face a fierce battle if they are to dislodge Deutsche Telekom which was partially-privatised last year. Mr Ron Sommer, chief executive since March 1995, has sought to jolt the group out of its state monopoly mentality and to inject a customer-orientated service culture.

In the past six years, Deutsche Telekom has spent DM150bn on investment, including digitalising its networks and building a modern, fibre-optic system across eastern Germany. "If you add up what our competitors plan to spend in the next five years, it is still not as much as we spend in a single year," Mr Sommer says.

A high priority is to improve reliability and its notoriously-bad *customer service. A special "VIP"* service has been introduced, for example, for the lucrative high-spending private customers.

Prices have been cut by an average of 10 per cent since 1990. Despite Germany's strict labour laws, staff numbers have been cut from 230,000 in 1995 to 201,000 at the end of last year with a goal of 170,000 by 2000. "The fight is on for every single client," says Mr Sommer.

The new competitors such as o.tel.o argue Deutsche Telekom is competing with unfair advantages. None will be able to offer from January 1 a universal network on their own. All depend on Deutsche Telekom providing access to its networks – particularly for the so-called "last mile" from trunk networks into customers' homes or businesses.

New numbers in German telecoms

German government
74%
Deutsche Telekom
Turnover 1996: DM63.1bn
Investment 1996: DM20bn (including acquisitions)

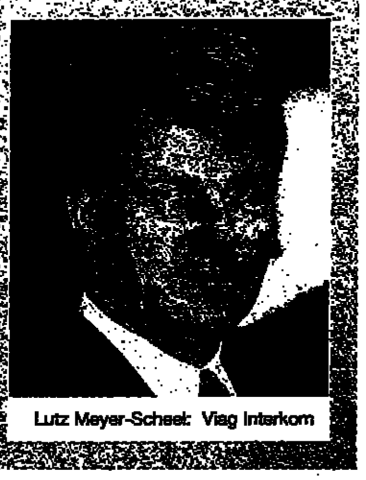
Deutsche Bahn 50.2% | Mannesmann consortium* 49.8%
Mannesmann Arcor
*Mannesmann 55.5%, AT&T 15%, Unisource 15%, Deutsche Bank 10%, AirTouch 4.5%
Turnover 1997: More than DM1bn
Investment: DM3bn–DM4bn (in the next 5 years)
Market share: Not forecast
Break even: "in 4 years"

Veba 40% | RWE 37.5%
o.tel.o
Revenue: DM7bn–DM9bn in 2005
Investment: DM7bn "in coming years"
Market share: 12%–17% by 2005
Break even: "within 5 years"

Viag 40% | Telenor of Norway 10% | British Telecommunications 40%
Viag Interkom
Turnover: DM10bn–DM11bn in 2007
Investment: DM6bn–DM7bn up to 2007
Market share: 7%–8% in 2007 (fixed lines plus mobile)
Break even: In 2002

Ron Sommer: Deutsche Telekom

Ulrich Hartmann: Veba



Lutz Meyer-Scheel: Viag Interkom

At o.tel.o's Cologne control room, there is frustration when lights indicating faults flash only once. This shows breaks in connections on Deutsche Telekom's sections of the network which can be rectified only by the former state-owned company's engineers.

By law, Deutsche Telekom must negotiate "interconnection" agreements, setting terms for its *competitors to use its network.* But with less than nine months to liberalisation, talks have erupted into angry public spats over Deutsche Telekom's negotiating strategy.

Mannesmann and Viag have threatened to file a complaint to the European Commission against the former state-owned monopoly for stifling competition. And Mr Hartmann of Veba accuses it of "still fully capitalising on its monopolistic position".

But the new operators fear there is little prospect of the government in Bonn offering early help in opening the market. Worse in their eyes, the government still retains a majority stake in Deutsche Telekom so its interests are at best compromised.

The post and telecommunications ministry has suggested, for example, that licences for operating a federal-wide service might cost as much as DM40m – hefty by international standards and a deterrent to smaller, niche companies. To build a federal-wide network would cost another DM40m.

From January 1 a new, independent regulatory authority is supposed to be in place to ensure *fair competition. But its president* and two vice-presidents have yet to be appointed.

Mr Hartmann of Veba says it is "unacceptable" that decisions have not been taken on management, organisation and staffing which will have a significant impact on the new regulator's effectiveness in policing the sector. Mr Peter Mihatsch, Mannesmann board member with responsibility for telecommunications, says: "We may have some time early next year in which there is no effective regulation."

"On January 1 1998 nothing will happen – there will be no dramatic change," says Mr Lutz Meyer-Scheel, managing director and spokesman of Viag Interkom, the Viag/BT joint venture.

Ambitions may have to be scaled down considerably. If each of the new telecom operators were to reach its target for market share, Deutsche Telekom would have to lose around 40 per cent of the market within a decade. In the UK, the former state-woned monopoly BT still has more than 89 per cent of the market after more than a decade of competition.

Such considerations have sparked a ceaseless round of *activity among the telecoms alli*ances bidding for a share of the German market. Cable & Wireless, the UK's telecoms group, has pulled out of the o.tel.o alliance, shying away from the huge investment needed. Thyssen, another German conglomerate, has scaled back its telecommunications plans, after a strategic rethink. "In the long run, there is room for a maximum of two universal service providers as competitors to Deutsche Telekom because no-one can provide the same range of services, no-one can have that breadth of management capacity," says Mr Meyer-Scheel of Viag Interkom.

Nevertheless, the erosion of Deutsche Telekom's grip on the market is inevitable. Power utilities such as Veba and RWE are financially strong and can afford to support operations which are not expected to break even until well into the next century. They also have experience running large infrastructure networks and customer billing systems.

And within a few years, their dependence on Deutsche Telekom will have been reduced. The rival groups will have completed a federal-wide network for bulk telecommunications traffic and have made greater inroads into the "last mile". Viag Interkom, for example, is planning to use radio telephony to link consumers to its fixed land-based network.

They will also receive help from the growing international pressures for liberalisation. European Union directives requiring telecom markets to be fully open to competition in data and voice services from January 1 next year were a catalyst for change in Germany. If the Bonn government or the new regulatory authority are ineffective as regulators, Brussels is likely to intervene to promote competition.

Within Germany, consumers are becoming increasingly accustomed to competition. In the German mobile telecommunications market – liberalised since 1990 – rivalry is already fierce between the four competing networks, only two of which are owned by Deutsche Telekom.

The new entrants have used mobile telephony to gain experience of the telecoms market – the largest mobile operator, D2, is majority-owned by Mannesmann. A fifth mobile network soon to be launched will be part of the Viag Interkom operation.

And unlike the US and UK, Germany is going straight for full across-the-board liberalisation. In the UK, the government only allowed one competitor – Mercury Communications – to tackle BT for the first seven years after privatisation in 1984. In the US, competition has only recently been allowed on the "last mile" to consumers.

Meanwhile, Germany's telecom operators are benefiting from the experience of companies in markets which are ahead of it in liberalisation. The new competitors can not only import technical and marketing know-how, they can also learn from mistakes made elsewhere.

Unlike Mercury in the UK, the main rivals to Deutsche Telekom are looking to offer a range of services to business and private *clients. That will allow econo*mies of scale and also prevent over dependence on short-term niche opportunities.

The size of the new rivals' operations and the scale of investment still to come suggests none is going to give up without a fight. Since it is one of the biggest in the world, a chunk of the German telecoms market is an alluring goal for new competitors such as o.tel.o.

As Mr James Riddiough, European telecommunications analyst at Deutsche Morgan Grenfell in Frankfurt, says: "They will come in. They could potentially make good money, providing their plans are sensible. But it will take time."

Additional reporting by Wolfgang Münchau

· OBSERVER ·

So full of beans

■ Funny how organisations get tired of the way they look, though corporate cosmetic surgery normally costs a lot more than the nip-and-tuck being considered by the International Cocoa Organisation to coincide with its 25th anniversary in 1998.

The ICCO has had enough of its worthy – but admittedly dull – logo, a kind of flattened and segmented planet earth stamped with a cocoa-bean pod and the acronym ICCO. The organisation has been going since 1973 with the same symbol, but now it wants to update its public face to something a little more in tune with the times.

Mind you, the ICCO is not spending a hill of beans on its new look; instead it's inviting anyone (apart from ICCO employees and their families) to submit designs. The winner will be chosen by the organisation's executive committee. "Surprise us with the winning entry and we will surprise you with a great prize!" it declares.

Observer has a sweet tooth so naturally rang up and asked what the surprise prize might be – chocolate bars for life, perhaps? "Now there's a thought," says an ICCO spokesman, adding "we can't give out any specific information just yet but we hope that won't deter you from entering." They'll be doodling from Paris to Peru.

Wipe out

■ Financier Sir James Goldsmith is trying hard to change the face of British politics; his Referendum party has stuffed millions of copies of its 12-minute video through the nation's letterboxes. So plenty of excitement at the party's headquarters after news that "the most important video you'll ever watch" is in especially strong demand in universities.

The word has gone out from the academic community that copies of the tape are urgently required to help the educational process on its way. The trouble is, the tapes aren't being used as a ground-breaking example of a new approach to "single-issue" politics; their length makes them ideal for wiping before re-use in seminar presentations.

Spokesmen

■ French insurance group GAN has suffered more than most from downturns in the property cycle and the underwriting cycle; now it seems to have had enough of the real thing. The state-owned company is risking the wrath of France's bicycle-loving public by withdrawing its sponsorship from the Tour de France.

GAN has sponsored its own team in the world's toughest cycle race since 1993; team members were often seen sporting the tour leader's famous yellow jersey – which conveniently matches one of the insurer's corporate colours. But now the company has decided that the expense is, well, a touch extravagant at a time when the French government is being asked to fork out FFr20bn to help cover huge losses.

Still, this has not prevented another troubled state-owned financial institution from continuing to lend support to the event; Crédit Lyonnais is still peddling its wares on the tour.

Hell's bells

■ London town crier Peter Moore has had his bell stolen. The felony took place on Monday within earshot of the Tower of London: Moore put down his 17lb copper and brass bell for a few seconds and when he turned round it was gone. In the old days felons were hung, drawn and quartered for less.

Now 53, Moore has been making a living shouting his head off for more than 20 years. He first did the job for the old Greater London Council. After Margaret Thatcher's least-favourite local authority was abolished, he went freelance and now waves his clapper around on behalf of a number of local authorities.

On Monday, he was working outside the Tower Hill Pageant, a busy tourist attraction, when someone made off with his precious prop. Unless it is handed back it will take six weeks to replace. But there's no question of Moore being silenced by the beastly crime; he's back on duty with a temporary bell loaned by the town crier of suburban Croydon.

Busy line

■ Woe betide the caller when two terribly fashionable New York phenomena – voicemail and psycho-analysis – collide:

"Hello, welcome to the Psychiatric Hot-line. If you are obsessive-compulsive, press 1 repeatedly. If you are co-dependent, please ask someone else to press 2. If you have multiple personalities, press 3,4,5 and 6. If you are paranoid-delusional, we know who you are and what you want; just stay on the line so we can trace the call. If you are schizophrenic, listen carefully and a little voice will tell you which number to press. If you are manic-depressive, it doesn't matter which number you press – no-one will answer."

The Financial Times

100 years ago

An Undesirable Development

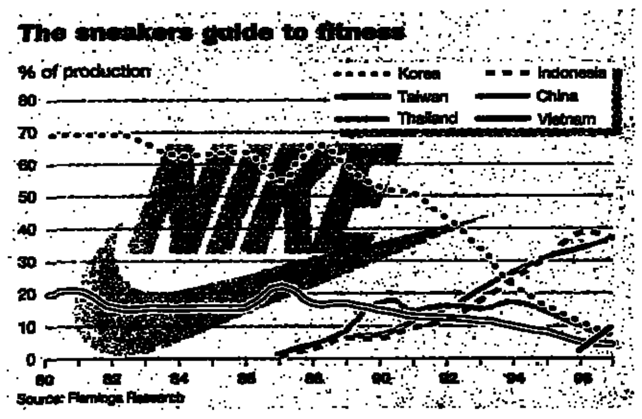
50 years ago

FINANCIAL TIMES
Wednesday April 2 1997

Nike's trainers grace fittest tigers in Asia

By Tony Tassell in Bombay

The sneakers guide to fitness



Source: Flemings Research

The Big Mac has long been used for rough and ready comparisons of the cost of living in different countries; now the Nike trainer has been adopted as a gauge of economic performance for developing countries in Asia.

While Nike's "swoosh" logo is unlikely to replace technical plottings of economic growth charts, the level of its trainer production can provide a "big picture" indicator of Asia's development, according to Robert Fleming, the broker.

"Where Nike produces, economies roar," it says in a study. "So far every country that Nike has produced sneakers in has seen high, long-term economic growth."

Although the world's biggest sports shoe company has its headquarters in the US, it outsources most production to sub-contractors in Asia.

It started production in Japan in early 1972, then switched to Korea and Taiwan in 1975 and from 1987 began to expand rapidly in Thailand, China and Indonesia.

The broker said Nike's choice of locations was an indicator of countries' development, as it was made not just on labour costs but also on criteria such as political stability, staff quality, infrastructure, government "openness", duties and quotas.

India is lagging behind in the Nike race. The company is still only testing the quality of workmanship there and has not yet made a decision about large-scale production.

"This is evidence that labour costs alone are insufficient to cause Nike to move into a country. It also indicates that India still falls short in one or more of its criteria," the broker said.

While rising production of Nike trainers in a country may indicate growth prospects, a fall could signify a maturing of its economy. Thailand's falling share of Nike production, for example, indicated its economy was ready to move from making trainers to semiconductors.

Using the sneaker guide, the economic future of China and Indonesia appears bright – each has a 30 per cent share of Nike's total production.

Vietnam is set to lift its share of output from just 2 per cent in 1996 to 10 per cent in this year. "This rapid increase is a proof Vietnam meets Nike's criteria for a successful production base. Vietnam's economic future, at least by the Nike indicator, is quite bright," Flemings said.

Banks design new way of measuring credit exposure

By George Graham, Banking Correspondent

A group of international banks will today launch a new computer model for measuring their credit risk. They believe it could one day reduce the cushion of capital that regulators require them to hold.

The method, developed by J.P. Morgan, the US investment bank, will allow a bank to quantify the maximum likely loss it could make on its loan portfolio, pulling together different types of risk such as consumer loans and corporate bonds into a single number.

The computer model, dubbed CreditMetrics, has been backed by Bank of America, BZW, Deutsche Morgan Grenfell, Swiss Bank Corporation and Union Bank of Switzerland, as well as by KMV Corporation, a San Francisco consultancy which is one of the leaders in credit valuation techniques. If bank regulators accept that the model works, it could eventually replace the standard capital adequacy formula laid down in 1988 by the Bank for International Settlements in Basle, which basically requires banks to hold a capital cushion amounting to 8 per cent of their assets.

"I believe the issue is on the radar screen already," said Mr Stephen Thieke, head of corporate risk management at Morgan and a former regulator at the Federal Reserve.

The Basle formula does give crude weightings to credits with different risk levels. Mortgages, for example, are regarded as half as risky as an ordinary loan.

But the old formula treats a blue chip company and an unemployed person with an overdraft in exactly the same way, and makes no distinction between a well-diversified portfolio and one where all the risks are concentrated in a particular country or sector.

CreditMetrics not only allows a wider spectrum of credit quality, but also calculates the likelihood that different types of loan will turn sour at the same time. It therefore produces a lower capital requirement for a well-diversified portfolio.

In addition, the model establishes a common benchmark for credit risk measurement. That could make it easier to agree on pricing new instruments such as credit derivatives.

"What this does is set a common standard so people can begin to measure their portfolio concentration, credit risk and use of economic capital," said Mr Andrew Bruce, head of risk at BZW.

Senior regulators, however, say they are still a long way from accepting the reliability of the model for credit risk.

US to block EU meat after talks fail

Continued from Page 1

poor standards of its poultry plants. The Commission says the US practice of "decontaminating" meat at the end of its production chain is "an invitation to relax strict hygiene".

Mr Nick Giordano, of the US's National Pork Producers, said: "It is clear that the EU doesn't want to do this for political and other reasons which have nothing to do with sound science."

The administration is under pressure from Congress to act. Thirteen US farm state senators this week wrote to Ms Charlene Barshefsky, US trade representative, urging her to "stand firm" against "the continued recalcitrance of the EU".

Argument flares over choice of European space chief

By Michael Skapinker in London

The French government and European aerospace executives are arguing over the future leadership of Arianespace, the world's biggest commercial satellite-launching organisation.

The battle began on Thursday when Mr Francis Avanzi, who was due to take over as chairman of Arianespace in July, was summoned by Mr François Fillon, France's space minister, and told he was no longer the man for the job.

The government is said to regard his management style as too confrontational and too "Anglo-Saxon". Instead, it is proposing that Mr Jean-Marie Luton, director-general of the European Space Agency, become chairman when Mr Charles Bigot retires.

The government's move is strongly opposed by European space executives. They say Mr Avanzi has demonstrated his managerial skills since becoming chief operating officer of Arianespace last year.

The appointment of the new chairman will be discussed at Arianespace's administrative board meeting on April 17. The government is in a position to impose its choice of chairman because it owns large Arianespace shareholders such as the Centre National d'Etudes Spatiales and Aerospatiale.

Mr Avanzi, who is French, was previously head of CFM, the joint venture between General Electric of the US and Snecma of France.

The argument comes at a difficult time for Arianespace, a French-based 53-company consortium, which has more than 50 per cent of the world's commercial satellite-launching market. It faces increasing competition, not only from US rivals such as Boeing and Lockheed Martin but also from Russia, China and Japan.

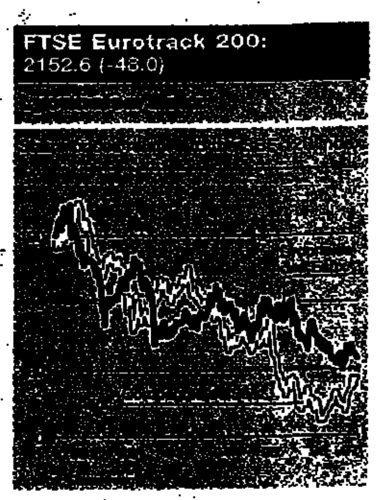
Arianespace is preparing for a fresh launch of its new Ariane 5 rocket. The first launch failed last year when the rocket crashed as a result of a computer software failure.

One executive described Mr Luton as "a negotiator, a man of compromise rather than a man of action". The French government is believed to be arguing that Mr Luton's strong links with Arianespace's public sector shareholders mean he is better placed to persuade them to adopt a more commercial approach.

French companies own 55.5 per cent of Arianespace. German companies, including Daimler-Benz Aerospace, account for 18.6 per cent and Italian groups 8.1 per cent. Belgian companies own 4 per cent and UK organisations 3 per cent.

THE LEX COLUMN

Market meanderings



The current wobbles in the US stock market are not surprising: a combination of rising interest rates and falling earnings growth is hardly good news for equities. It looks increasingly likely that last week's 25 basis point interest rate increase is only the first of several, as the US Federal Reserve tries to rein in inflationary pressures. At the same time, rising labour costs and the impact of a stronger dollar on overseas profits are taking the shine off the corporate sector. Earnings growth is expected to slow from a reported 14 per cent in 1996 to single digits this year and as little as 4 per cent in 1998.

Even so, this is hardly the stuff of nightmares. Nobody suggests US growth is coming to a sudden halt. The likelihood is therefore a gentle tightening by the Fed, in sharp contrast to its shock move in February 1994. And share prices have already reacted. The US market has fallen 7 per cent since its early March peak, while the UK, France and Germany are down 4-5 per cent.

Europe's more subdued reaction looks right. Apart from the UK, European interest rates are unlikely to rise much, if at all, during 1997. And earnings are still being upgraded as economic recovery, more competitive currencies and restructuring benefits make themselves felt. Until the Fed completes its process of monetary tightening – which could take until the end of the summer – equities will remain volatile. But the outlook thereafter is much brighter.

Lyonnaise/Suez

It is not surprising that Compagnie de Suez's big shareholders, led by St-Gobain, are now growling that they want some goodies out of the company's planned merger with Lyonnaise des Eaux. For a start, Lyonnaise's old rival Générale des Eaux, a Suez shareholder, has every reason to deprive its debt-laden competitor of part of Suez's cash pile. And if some loot can be extracted, that doubtless suits other Suez shareholders too. The real question is: are they demanding enough?

To see why they may not be, consider the position of a Suez shareholder. Even after their recent run, Suez shares are trading at a discount of roughly 30 per cent to the company's break-up value. And when the exchange rate between Lyonnaise and Suez shareholders is fixed, Lyonnaise cannot sensibly offer a big premium to that. The deal may be neat but it will not generate much in the way of concrete financial benefits. And there is no compelling reason to suppose investors will apply less of a discount to Suez's assets once they become part of Lyonnaise.

In short, unless Lyonnaise is planning an act of astonishing generosity, the deal will implicitly price Suez at well below its break-up value. In that case, a break-up would be the better alternative for shareholders. That would be controversial. But how, one wonders, do supposedly value-minded Suez shareholders such as Générale des Eaux and Axa-UAP plan to justify the present cosy alternative to their own shareholders?

India

Once again, India's political turmoil threatens the country's economic progress. Just as the United Front, a minority government made up of 13 parties, was starting to find its feet, the once all-powerful Congress party has withdrawn its parliamentary support.

For investors, the best hope is that behind-the-scenes negotiations will come up with a new compromise candidate for prime minister. The prospect of another weak coalition is far from ideal. But it is still better than the uncertainty of another general election, which would probably strengthen the hand of the religious rightwing BJP – already the largest party in parliament. What matters most, however, is that India passes the UF's proposed budget, which contains aggressive cuts in corporate and personal taxes, reductions in import and customs duties and measures to legalise share buy-backs. As such it should speed up much-needed deregulation, make equities more attractive and – ironically – boost government revenues as lower tax rates persuade more companies and individuals to start paying tax at all.

Longer term, India's rapid growth and well-controlled inflation make it an attractive investment. And even after dropping sharply in response to this latest crisis, the stock market is up 5 per cent this year. But until the government manages to pass the budget and underline its commitment to reform, caution looks in order.

Mutual life assurers

Is Britain on the point of another demutualisation wave? With Scottish Amicable gobbled up and Australian Mutual Provident apparently hot on the trail of another life assurer, many are tempted to think so. And having seen how much Prudential Corporation is paying for ScotAm, policyholders elsewhere are understandably licking their lips at the prospect.

They should not get their hopes up too high. The fact that the ScotAm auction boiled down to just three serious bidders suggests the number of predators for these businesses is limited. Moreover, ScotAm's lavish price tag makes sense only because the mutual is being taken over, providing fat cost savings and allowing the ScotAm life fund to be closed and capital handed back to policyholders. A straightforward flotation wave, like that of the building societies, would deliver much more modest benefits for policyholders.

Nevertheless, even a few aggressive takeovers could usefully invigorate the remaining mutuals – just as flotations have done for building societies. Faced with some biggish payouts from their peers, diehard mutuals would be subjected to greater pressure to justify their fondness for the status quo. And just as mutual building societies have fought back by promising better rates to their borrowers and depositors, why could mutual life assurers not respond by offering better bonuses? Policyholders are less likely to be dazzled by upfront goodies, after all, if they have a respectable alternative.

Additional Lex note on Hammerson/MEPC, Page 23

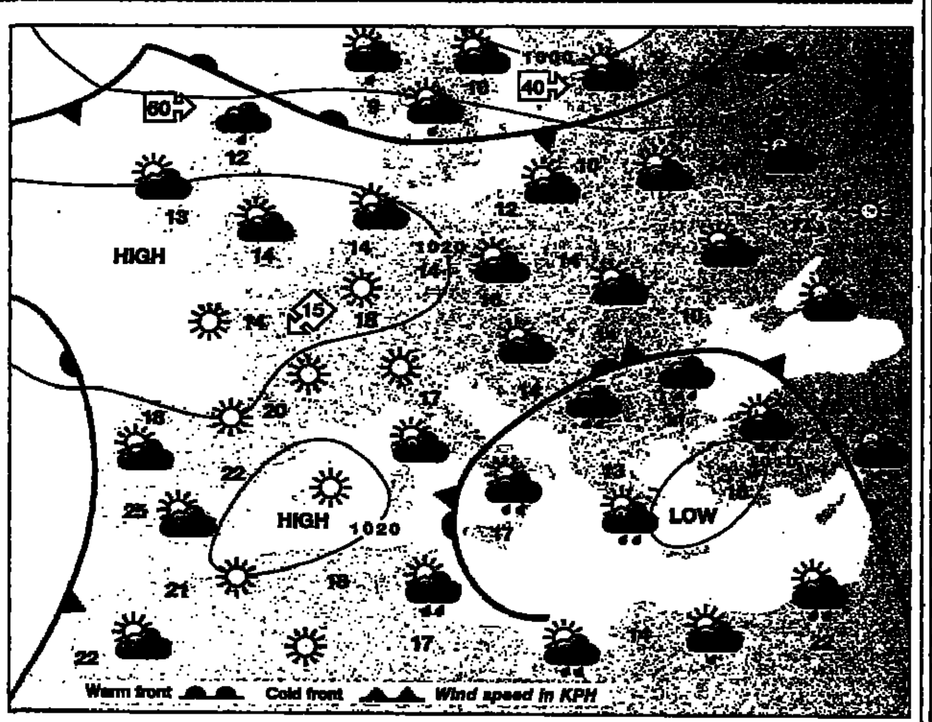
FT WEATHER GUIDE

Europe today

High pressure will promote ample sunshine in most of western and south-western Europe. The Iberian peninsula and France will be sunny throughout the day. Low pressure will influence northern parts of the British Isles. Cloud and rain will prevail in Scotland and Ireland and most of England will be cloudy. A mixture of cloud and sunshine will cover the Benelux, Germany and the eastern Alps. Rain and snow will occur in western Scandinavia but southern areas will be dry but cloudy. South-eastern Europe will continue unsettled. Greece, southern Italy and western Turkey will have showers.

Five-day forecast

Most of France and Iberia will remain fine during the next couple of days. Southern Spain will turn unsettled during the weekend. Unsettled and cold conditions will gradually spread south toward the Alps where fresh snow is likely in the north above 1,000 metres on Friday.



Situation at 12 GMT. Temperatures maximum for day. Forecasts by Meteo Consult of the Netherlands

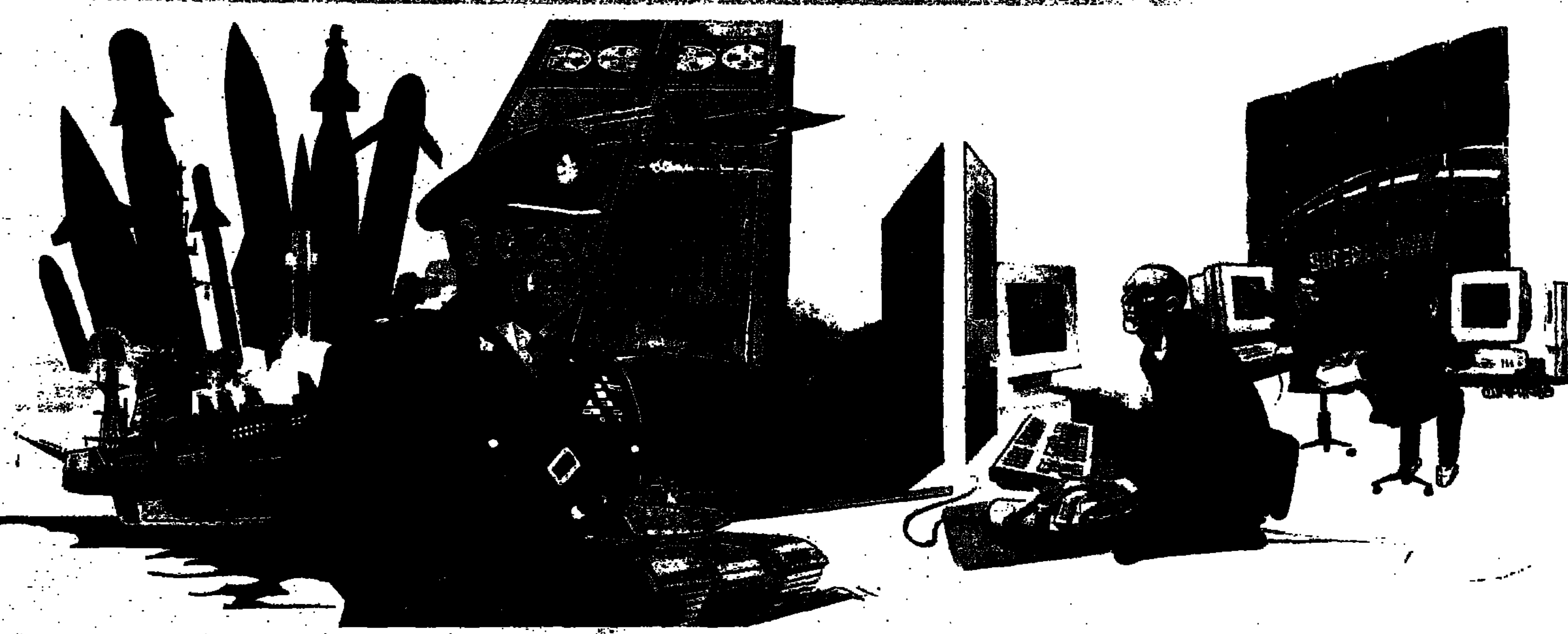
TODAY'S TEMPERATURES

	Maximum	Beijing	shower 16	Caracas	fair 30	Faro	fair 21	Madrid	sun 22	Rangoon	sun 37
	Celsius	Belfast	cloudy 12	Cardiff	cloudy 12	Frankfurt	fair 17	Majorca	sun 19	Reykjavik	fair 0
Abu Dhabi	sun 24	Belgrade	rain 13	Casablanca	fair 21	Geneva	sun 18	Malta	shower 14	Rio	cloudy 28
Accra	thund 31	Berlin	cloudy 13	Chicago	fair 22	Gibraltar	fair 19	Manchester	cloudy 13	Rome	fair 16
Algiers	sun 18	Bermuda	cloudy 20	Cologne	sun 16	Glasgow	rain 12	Manila	fair 33	S. Frsco	sun 18
Amsterdam	fair 13	Bogota	cloudy 20	Dakar	fair 23	Hamburg	cloudy 13	Melbourne	fair 20	Seoul	rain 20
Athens	shower 14	Bombay	sun 33	Dallas	thund 23	Helsinki	fair 9	Mexico City	fair 25	Singapore	shower 33
Atlanta	sun 22	Brussels	sun 15	Delhi	fair 26	Hong Kong	fair 25	Miami	fair 25	Stockholm	fair 11
B. Aires	fair 32	Budapest	fair 16	Dubai	sun 25	Honolulu	fair 28	Milan	sun 20	Strasbourg	sun 18
B.ham	cloudy 13	C.hagen	cloudy 10	Dublin	cloudy 13	Istanbul	shower 12	Montreal	fair 9	Sydney	sun 24
Bangkok	fair 37	Cairo	fair 23	Dubrovnik	shower 12	Jakarta	fair 32	Moscow	rain 9	Tangier	sun 21
Barcelona	fair 18	Cape Town	fair 22	Edinburgh	cloudy 13	Jersey	sun 14	Munich	fair 17	Tel Aviv	fair 25
						Karachi	sun 31	Nairobi	fair 27	Tokyo	fair 17
						Kuwait	sun 25	Naples	fair 14	Toronto	fair 11
						L. Angeles	sun 16	Nassau	fair 27	Vancouver	sun 12
						Las Palmas	fair 22	New York	sun 14	Venice	fair 15
						Lima	cloudy 24	Nice	sun 18	Vienna	cloudy 14
						Lisbon	sun 23	Nicosia	shower 19	Warsaw	fair 13
						London	fair 14	Oslo	fair 11	Washington	sun 17
						Lux.bourg	fair 16	Paris	sun 15	Wellington	fair 16
						Lyon	sun 20	Perth	fair 22	Winnipeg	fair 7
						Madeira	sun 19	Prague	fair 14	Zurich	sun 15

Software at work
Collaboration in the office

Interview
View from the top:
James Unruh
of Unisys
Page 12

Information Technology



From swords to ploughshares

Many advances in information and communications technology were triggered by costly defence research projects. But now, as governments around the world make big military cutbacks, high technology companies are seeking new commercial markets, reports Geoffrey Nairn

Deep in the heart of Texas a decommissioned missile base is up for sale. The real-estate company handling the property believes it would make a good computer centre or mushroom farm, but commercial interest has so far been poor and the company recently slashed the price of this Cold War relic to $650,000.

Military conversion is easier said than done, as the above example shows. But with governments around the world cutting defence budgets, many high-tech companies are reducing military work to seek out commercial uses for their skills and technologies.

"The growth we get from defence is not bad, but it's not as good as the rest of our business," says Pierre Yves Simonot, marketing director at Anglo-French IT services group, Sema.

Defence revenue has dropped from 24 per cent of Sema's turnover in 1995 to 20 per cent last year. The deepest defence cuts have been made in high-tech projects, many of which were dreamed up before the collapse of the Warsaw Pact. Critics say battlefield digitisation technologies *(see report, page three)* are largely irrelevant to the crude warfare practised in Bosnia, Rwanda or Somalia or to peacekeeping missions.

"I am not sure if the projects of the 1980s are still appropriate," says Mr Simonot. "Military operations today are rarely war operations." Only the Gulf War has so far given the defence industry a chance to test its high-tech weaponry in earnest. But the Pentagon is having to scale back investments in such technologies to satisfy more pressing demands on its coffers – such as the $2bn budget overshoot for stationing US troops in Bosnia.

In Europe, the old threat from the East has vanished and with it the justification for many defence projects. France and Germany, for example, have scrapped plans to include an advanced information system in the Tiger attack helicopter they are jointly developing.

Other projects have been killed by governments disillusioned with the cost over-runs and delays that seem to plague military IT systems. In February, the UK Ministry of Defence cancelled an electronic warfare system that was five years late.

The end of the Cold War has had a tremendous impact on the defence industry, triggering lay-offs and mergers on both sides of the Atlantic. More than 28,000 defence workers have lost their jobs in the San Diego area of California, for example.

The trend is far from over. In February, the US aerospace company Northrop Grumman became the latest in a long list of defence contractors to slim down: it will close four plants and shed 755 jobs. Texas Instruments and Hughes Electronics are pulling out of defence electronics and selling their interests to Raytheon. Lockheed Martin has proposed to buy the defence arm of Loral.

When it comes to beating swords into ploughshares, the US-based Rockwell International, famous for the B1 bomber, experimental aircraft and rockets, has now made a remarkable shift from defence to commercial markets – *see report, page two.*

In Europe, consolidation is also happening: France seeks a buyer for the state-owned defence electronics firm Thomson CSF; Germany's Siemens is looking to withdraw from defence electronics; Italy's state-owned Finmeccanica wants to combine its defence activities with the UK's GEC-Marconi.

To cushion the impact of declining defence sales, many IT companies are seeking new commercial markets. The US government has earmarked $500m to encourage this trend. But the change is not easy for companies that have grown fat on generously-priced defence work. In the commercial sector, margins are slimmer, projects shorter and competition greater.

US suppliers are particularly keen to learn from Israel's IT industry's successes in finding civilian uses for military technologies. The two countries have set up a task force to further promote Israel's dual-use technologies and find US partners - *see report, page four.*

In the US, "major defence contractors are coming to us and saying 'help us out,'" says Len Zuga, a senior analyst with Frost & Sullivan who spent 12 years working in defence.

The research group has identified 44 high-tech sectors where military expertise could find a market niche, ranging from industrial electronics and test equipment to satellite communications. Some companies have found their own niche. Spanish warship builder Bazan has converted its anti-missile technology into system for monitoring forest fires. The system uses infra-red cameras to locate fires and has been installed in several Spanish forests.

One of the largest IT companies in the defence sector is US services giant Computer Sciences Corporation (CSC). It decided to reduce defence and government work several years ago, and federal revenues have thus dropped from 57 per cent in 1992 to 37 per cent last year.

Other IT companies have been less successful at coping with a drop in defence orders. Since 1994, three supercomputer suppliers have filed for Chapter 11 protection, victims of defence cuts – military applications were once a big market for supercomputers – and advances in commodity processor technology that have made specialised number-crunching hardware obsolete.

One of the other companies, Thinking Machines, re-emerged in 1995 but it has learnt its lesson. It now sells software for data mining rather than exotic hardware and focuses on commercial markets, such as risk management and fraud detection, rather than defence.

The most difficult conversion process faces former Eastern Bloc countries, whose defence suppliers were once an industrial elite but now struggle to buy raw materials and pay salaries. Nato believes the successful conversion of the defence sectors of these countries is crucial to their economic reform. The European Union, US and Japan have spent Ecu65m (equal to $74.7m or £46.8m) during the past two years on 200 projects to help 11,000 Russian military researchers switch to civil activities.

"In the former Soviet Union there is an enormous reserve of scientific and technical knowledge but no-one knows how to transform it into commercial products," says Enric Trillas, an expert on defence conversion at the Polytechnic University of Madrid.

Stins Coman is an example of successful defence conversion in the former Soviet Union. This Russian computer company was founded in 1992 by engineers from the aviation industry centred around Zhukovskiy, near Moscow. The end of the Cold War brought dramatic changes – "we once had access to the best people and technologies, but by 1992 the government could no longer pay decent salaries," says Timur Issev, head of marketing at Stins Coman.

Stins Coman was founded to produce a cheap PC, the Amata, assembled from components imported from Germany. The Amata is still made, but 70 per cent of the company's $60m turnover now comes from higher-margin network integration work. It has agreements with Cisco and Northern Telecom.

Many IT companies insist there are still opportunities to be had in defence. But the emphasis today is on services such as outsourcing and software to improve logistics and accounting rather than the Star Wars technologies of the 1980s.

"Our focus is the second line not the front line," says John Parker, sales manager of Norsk-Data ServiceTeam, which provides IT services to the UK's MoD. It supports the computer systems that run the British Army's worldwide logistics infrastructure, for example.

Anthony Cole, defence director of UK systems house Logica, says the MoD has learnt from the commercial sector and is looking to IT to automate functions such as payroll and accounting that traditionally were labour intensive.

"Historically, the MoD was very 'wealthy' in manpower, but with the defence personnel cuts there is now pressure to get more out of IT," he says. Defence comprises 9 per cent of Logica's turnover.

One of the biggest changes to take root in defence has been the discovery that cheap commercial off-the-shelf technologies ('Cots') can be as good as military-specification products – "Cots has really taken hold and cost-savings in excess of 50 per cent have been made by the [US] Department of Defense," says Mr Zuga of Frost & Sullivan.

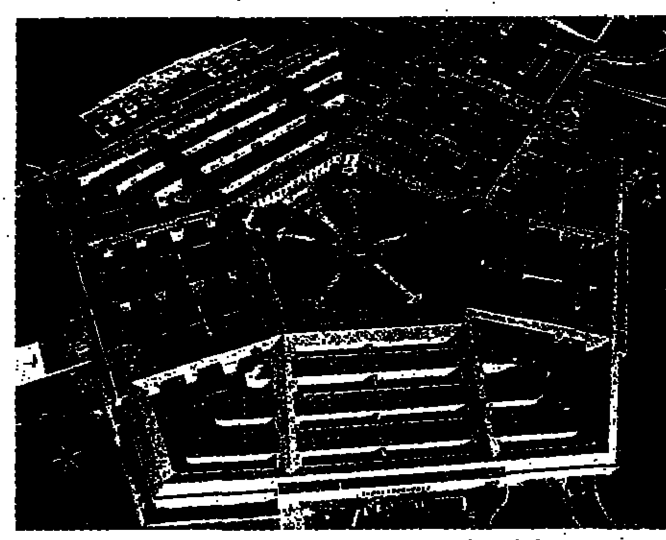
Sema demonstrated the value of Cots to the French army by convincing it to change the specifications for an IT system so that Sema could tender an off-the-shelf logistics software package, rather than write software from scratch – "If you start from the beginning with the view that you can use Cots, you can save a lot of money," says Mr Simonot, who estimates the revised specifications saved the French army at least 10 per cent.

ON OTHER PAGES

CYBER TERRORISM • By Paul Taylor

West faces prospect of hacker warfare

How even ordinary personal computers could be used to disrupt economies and bring nations to their knees



The Pentagon: target for at least 250,000 computer 'attacks' a year

Future wars may be waged not with missiles, tanks and land mines, but by using computer keyboards, virus programmes and 'logic bombs'. Nevertheless, if the 'information war' experts are to be believed, the results could be just as devastating.

Over the past decade, information warfare has stepped right out of the pages of a sci-fi novel to become both a potent new weapon in military arsenals, and conversely a frightening new threat to be countered. In the US and elsewhere in the developed world, military minds are facing up to the prospect of having to wage cyber warfare against perhaps an unseen enemy.

Almost 30 years after the US Defense Department created the Internet as a communications system invulnerable even to a nuclear attack, the global web of computer networks is itself now viewed as a national security risk by the Pentagon and other military security chiefs.

The increasing dependency of government agencies and commercial businesses on networks of computers that support critical functions such as banking, communications, air traffic control and law enforcement, together with the rapid growth of international access to the Internet, has created new and substantial vulnerabilities.

"We are rapidly getting to the point where we could conduct warfare by dumping the economic affairs of a nation (via computer networks)," said US Senator John Glenn in response to testimony before a hearing on cyber security last summer. But the potential to wage cyber war is a two-edged sword which can be used by and against a nation.

Until relatively recently, the concept of 'information warfare' or 'cyber wars' had been largely dismissed as alarmist rhetoric pumped out by those with an interest in maintaining the West's vast intelligence apparatus. But the potential use of computer networks to undermine public confidence, disrupt essential services, play havoc with the economy or damage military capabilities, is now being taken seriously in Washington and elsewhere. According to the US National Security Agency, potential adversaries of the US in 120 countries are gathering data via the Internet about US Defense Department computer networks and developing methods of launching untraceable attacks to disable or compromise them.

Data from a report last year by the US General Accounting Office, the investigative agency of the US Congress, suggested that Pentagon computers are a frequent target of hackers. "Hackers have stolen and destroyed sensitive data and software. They have installed 'back doors' into computer systems which allow them to surreptitiously regain entry ... they have crashed entire systems and networks," said Jack Brock, a GAO director.

At a minimum, these attacks are a multi-million-dollar nuisance to the Pentagon. At worst, they are a serious threat to national security. Defence Department computers containing non-classified but sensitive data are attacked about 250,000 times a year, according to the Defense Information Systems Agency, a Pentagon computer security force which has opened a "continuity-of-operations" centre in Slidell, Louisiana.

Another military unit, the Automated Systems Security Incident Support Team, is the Pentagon's emergency team dedicated to responding to attacks on the US military's panoply of computer systems. In one 18-month period the unit received 28,000 calls for help and isolated thousands of hacker programmes, known as 'critters', which are then saved for future research.

In the wake of the Gulf War, doomsday scenarios such as panic on the world's stock-markets as share prices inexplicably plummet, or a run on commercial banks after customers' accounts are plundered electronically by mercenary 'hackers', are being taken much more seriously. A number of high-level studies including one by the Washington-based Rand Corporation which conducted a number of cyber-terrorism exercises on behalf of the Secretary of Defense have also been completed. A report summarising its findings, called *A Strategic Information warfare: A New Face of War*, concluded that "the features and likely consequences of strategic information warfare point to a basic conclusion: key national military strategic assumptions are obsolete and inadequate for confronting the threat posed by strategic information warfare."

Such warnings have prompted all three wings of the US military to set up 'Infowar' offices, staffed by graduates from the National Defense University in Washington, who have been trained in everything from defending against computer attacks to using virtual reality in planning battle manoeuvres.

Intelligence agencies in the US and elsewhere have also begun "dabbling in hacker warfare." According to a cover-story in *Time* magazine, published 18 months ago, the National Security Agency and top-secret units in the three armed services have been researching ways to infect enemy computer systems with virulent strains of viruses.

Another type of computer programme called a 'logic bomb' can remain dormant in an enemy system until a predetermined time and then wake up and begin destroying data. There have been reports that the US Central Intelligence Agency also ran a clandestine scheme known as 'chipping' under which booby-trapped computer chips were directed towards weapons systems destined for potentially hostile countries.

But some Infowar weaponry is even more exotic. For example, the Los Alamos National Laboratory in New Mexico developed a suitcase-sized device which generates a high-powered electromagnetic pulse. Positioned outside a central bank or a communications centre, the device can literally burn out all the electronic components in a building.

As author Winn Schwartau notes in his book *Information Warfare: Chaos on the Electronic Superhighway*: "Information warfare is an electronic conflict in which information is a strategic asset worthy of conquest or destruction. Computers and other communications and information systems become attractive first-strike targets."

CASE STUDY: Shifting from defence to commercial markets • By Tom Foremski

Bold move by Rockwell

The giant US defence company is achieving a remarkable transition

The end of the Cold War signalled a shift in strategy

When it comes to the subject of beating swords into ploughshares, US-based Rockwell International provides one of the best and most visible success stories and shows that it is possible for a giant defence company to move from the cosy world of government defence contracts to the very competitive marketplace of the commercial sector.

Last August, Rockwell completed its strategy of transforming itself into a commercial company by selling its aerospace and defence business units to Boeing for about \$3.2bn.

The company – which was famous for the creation of the B-1 bomber, experimental aircraft, propulsion systems for Atlas and Delta rockets – would, instead, now make its way in commercial markets and build on its reputation as the leading supplier of communications chips, and providing products for the automotive industry.

The sale to Boeing forms a business strategy that was adopted by Rockwell in the mid-1980s, during a time when Boeing relied on about two-thirds of its revenue from government contracts for such high profile projects such as the B-1 bomber, spy satellites and Space Shuttle programs.

Along with other large defence companies, Rockwell saw that the end of the Cold war would bring problems, and instead of trying to fight with its rivals for a declining market share, the decision was made to take its technology and redirect it to commercial markets – markets that were expanding, rather than contracting.

Rockwell's success in making the transition from its huge reliance on government contracts that involved leisurely multi-year deals with safeguards for ensuring profitability, to the unpredictability of commercial markets, is a stunning achievement. Many managers like to talk about "the major paradigm shifts" that must be understood and adapted in making money in fast-changing worldwide markets.

But for a company like Rockwell, which understood the world of government contracts and the fundamentally different economies of that market, to successfully move to the very different demands of commercial markets, represents a paradigm shift of a magnitude much greater than that faced by most large businesses.

Rockwell's Semiconductor division, represents one of the company's fastest growing businesses: its focus on communications chips, especially computer modem chip sets, has made it into the leading supplier of modem chips to the majority of modem manufacturers.

Modems are expected to become a \$5bn market this year, and Rockwell is leading the way with fast 56 kilobit per second modem chips that will help speed up Internet access for millions of modem users. Last year, Rockwell also acquired Brooktree and its technology for producing chips that support modem communications of as high as 1.5 megabits per second, opening a way for even faster Internet connections.

It has also begun work on a new \$1.2bn fabrication plant that will churn out millions of its modem chips, showing it is able to make the tough investment decisions that are necessary to stay ahead in commercial markets.

A key part of Rockwell's business metamorphosis has been the way it has changed its information technology structure. The company has embraced a distributed computing environment, rather than its former centralised mainframe systems. It has installed optical disk storage systems, groupware, product data management systems and video conferencing to help guide its business strategy.

Rockwell's transition has been rewarded by steady growth, but it has meant it has had to make some very tough decisions along the way, dropping unprofitable parts of its business and making the necessary investments in profitable parts of its business, such as its Rockwell Automation division which make motors and drives for factory production lines.

Furthermore, as the US Defense Department moves more toward relying on adapting commercial products, Rockwell can still be a supplier of key technologies to the government, but with the added benefit of refining its technology through the competitive markets of the commercial sector.

IT

Fax-U-Back Information Service

For details of forthcoming issues of the FT Review of Information Technology, UK callers may use the FT-IT Fax-U-Back Service.
Details include editorial synopses of future issues and writers for various themes.
The fax number to call is:

0990 209 903

For callers outside the UK, the fax number is +44 990 209 903

Technical note: Make sure your fax is in polling mode. If you have a handset on your fax machine, dial the Fax-U-Back number and press 'start' when instructed. Alternatively, the number can be dialled direct from the fax keyboard, followed by 'start'.
If callers have technical problems regarding this service, telephone 0171 873 4378. Callers from outside the UK should dial: +44 171 873 4378.

To obtain back copies of the review, call 0171 873 3324. Callers from outside the UK should dial +44 171 873 3324

E-mail: FT.IT@FT.Com

The FT web site provides online news, comment and analysis at http://www.FT.com

FT Review of Information Technology

The FT-IT Review is published on the first Wednesday of the month, except in August. In addition, a weekly FT-IT news and feature page is published on each of the other Wednesdays of the month.

FT-IT Review, editorial controller: Mike Wiltshire
E-mail: Mike.Wiltshire@FT.Com

Writers in this issue, (volume three, number four):
Paul Taylor, IT Correspondent; Geoffrey Nairn, Tom Foremski, Michael Dempsey, Bernard Gray, Geoffrey Wheelwright, Philip Manchester, John Kavanagh, George Black, Rod Newing.

Illustrations: Joe Cummings (cover) and Mark Thomas.
Picture research: Patricia Lee and Matthew Glynn.

The next issue, May 7, 1997:
Main focus: Mobile computing
Software at work: Managing information.
New directions: Virtual reality.

The June 4 issue:
Main focus: Enterprise-wide computing.
New directions: Smartcard applications.
Special section: IT and venture capital.
Magazine: Doing Business On-line – focus on financial applications.

Editorial inquiries: see details of the Fax-U-Back service, left. If your fax machine cannot receive this service, please fax a request to Suzannah Parsons, FT Surveys Secretary, in London on (0)171 873 3197.
Callers from outside UK should add their country exit code plus country entry code (44 for UK), omitting the initial zero. The telephone helpline is on (0)171 873 4378. Readers' inquiries: (0)171 873 4211. E-mail: FT.IT@FT.Com

For advertising details, contact:
In London:
Simon Larter, FT Advertisement Sales:
telephone (+44) 0171 873 4129 or fax (+44) 0171 873 3062
For information regarding the FT-IT Magazine, 'Doing Business Online', contact Jane-Emma Peerless on (+44) 0171 873 3309 or Chris Aston on (+44) 0171 873 4196.

In the US:
New York: Gavin Bishop, telephone (212) 745 1342.
San Francisco: Nick Mayle, telephone (415) 637 9775.

Subscription service: readers of the FT-IT Review can now ensure they receive their own copy by post. For details and credit card orders, phone Terri Sanderson, Subscriptions department, on 0171 538 8288 (UK callers), or +44 171 538 828 (overseas callers), or write to:

Financial Times
Number One, Southwark Bridge,
London SE1 9HL

FEEDBACK

The Open Group clarifies its role

Letter from Mr Simon Lofthouse of The Open Group:

Sir, The article about the future of Unix and Microsoft Windows NT in the March issue of the FT-IT Review was certainly one of the better pieces of coverage on this subject, but I would like to clarify the position of The Open Group.

Referring to The Open Group as "representing the Unix camp" is a little misleading as it implies that we recommend Unix over other products.

The Open Group does not and cannot support or promote one product over another. We *can* comment on technologies in respect to our definition of an open system, but it is the user community that decides on the success or failure of a product, not us.

With over 300 members, many of which use both NT and Unix, we understand the need for our activity to remain relevant to the industry as a whole, which includes both operating systems.

Yes, a lot of our sponsors have successful Unix operations, but many of them, such as Digital Equipment Corporation, also support NT. Microsoft has also been a member for some time and we have worked closely with the company on a number of occasions.

Simon Lofthouse, Corporate Communications, Europe, The Open Group, Apex Plaza, Forbury Road, Reading RG1 1AX; e-mail: s.lofthouse@opengroup.org Tel : +44 (0)118 950 8311 Xt 2247; fax: +44 (0)118 950 0110 http: //www.opengroup.org

COMPUTER SECURITY • By Michael Dempsey

Military men have re-think on off-the-shelf solutions

The battle to cut costs means squeezing value out of every contract

Computer security has been a formal concern in the defence establishment since the early 1950s. With desktop PCs appearing throughout bases and onboard warships during the 1980s, the threat of electronic emanations being intercepted and interpreted created a temporary panic.

Then, for a short period, personnel operating computers in frontline units were ordered to run two systems side by side in order to scramble screen emissions. *The Tempest Specification*, a hardware definition that demanded systems hardened against external spying, became standard.

As computer systems proliferated, defence officials faced a further dilemma. Technology offered administrative efficiency, but hostile hacking or the introduction of a virus could do the same damage as a bomb.

The UK's Ministry of Defence is independently credited with possessing almost uniquely secure systems – a 40-year history of assessing computer threats has guaranteed that high reputation. But the cost of this vigilance has been a massive bias towards bespoke IT developments and the exclusion of cheaper and more popular commercial systems.

With the emergence of the commercial off-the-shelf ('Cots') doctrine of IT procurement, the MoD had to rethink its attitude to security.

Keeping defence projects within the department's £21.7bn annual budget means squeezing value out of every single contract. Graham Paterson, assistant director of technical information security at the Defence Ministry in London, says Cots is provoking a sea change in military systems – "if we can get good security within Cots, then the knock-on effect could be enormous. Getting rid of bespoke systems could create huge cost savings".

The MoD has not quite arrived at these savings. But Paterson thinks it is heading in the right direction, courtesy of the Security in Open Systems Technical Demonstration Programme, known as TDP. Funded on a half-and-half basis by the MoD and a consortium of IT suppliers including Microsoft, Novell, Digital and EDS, this has resulted in a series of seminars proving that commercial systems *can* broadcast messages to the MoD's own security standards.

The technical standard at work here is called Public Key Encryption. It involves two software programmes: one, the public key, encodes the outgoing message; and a second, user-confidential key, translates it for the recipient. For the MoD, this is a departure from received wisdom. Abbey Wood, a purpose-built £254m development outside Bristol, housing the MoD Procurement Executive, is home to TDP project manager Jim Alyson. He describes the traditional approach to IT security as "a bump in the wire", meaning an encryption barrier isolating the system or local network to create the MoD's beloved "islands of security".

TDP satisfies Alyson in that it contains algorithms that make any attempt at tampering with message en route "very obvious".

With TDP, the defence community has its eye on economies, Alyson confirms. "Normally, we spend money on top of the standard equipment price-tag to add our own security. The idea of TDP is to interest the commercial world in developing secure software that we can be happy with."

Abbey Wood is a very potent symbol of the MoD's attempts to streamline its relationship with defence suppliers. The 4,250 staff at Abbey Wood deal with 630 leading suppliers, plus 10,000 other businesses. The MoD wants to move towards electronic commerce in its dealings with these suppliers, but the security question is hindering that development. Back in London, Paterson agrees that the Internet is an obvious delivery mechanism – "we don't ignore it, but we don't use it with our primary systems either. If you're connected, what will you import?"

> 'Firewall software' is high on the shopping list

An Internet terminal sits in one corner of Paterson's office, but it is resolutely a standalone system with no connection to any other MoD machine.

"Really grubby viruses" are Paterson's big concern, and none of them will enter Whitehall's systems via the Internet. Firewalls, security programs that face both ways and act as a gate-guardian for computer networks, can allow the users of sensitive systems to connect to the outside world. And the UK defence community could be a big customer for whoever writes a firewall program that meets with Paterson's approval. "We are taking a cautious approach, we're waiting for fully evaluated firewalls to arrive," he says.

The computer systems giant, Unisys, won the contract to install Abbey Wood's IT infrastructure in a £40m deal. Under the umbrella term, Aspect, Unisys brought in popular commercial software from suppliers such as Oracle and Microsoft to form a suite of computer tools.

The problem confronting Unisys was that each employee might want to log into several tools in the course of a day's work, but much of that work involves confidential details of contracts. Rather than issue Aspect's 4,250-strong user community with a bag of passwords, it constructed a security architecture named 'Single Sign-On'.

Unisys' project director Mike Spanner says any user can log on with the one password; he then gets a profile of those parts of the system he is authorised to use. Single Sign-On funnels users into just the right areas and protects other work while avoiding lengthy log-on procedures and long lists of passwords.

Spanner points out that giving people several passwords only adds to the temptation to write them down – a fundamental breech of security procedures.

The world of Cots and TDP will open doors to commercial software suppliers. And Paterson's admission that firewall software is high on the MoD's shopping list means business for whoever can reach the elusive compromise between commercial viability and the highest security standards.

According to Paterson, suppliers should not be too intimidated by the MoD's understandable security fixation – "nobody has a golden solution. If we want to stick to the Cots philosophy, we must listen and come with best-of-breed solutions".

Systems security report: see pages 5 – 7

BATTLEFIELD DIGITISATION: [illegible], Defence Correspondent

How sensors help create a cybernetic battleground

Field commanders use IT systems to gather data which can then be fused into a single clear picture

Some are calling it a "Revolution in Military Affairs," which, so its advocates claim, will sweep away the fog of war. Others, more prosaically, refer to "battlefield digitisation" as the coming thing.

Whatever its title, there is no doubt that information technology is having a profound effect on the way generals think about warfare. Yet in a reversal of the trend since the second world war, the upheaval in military doctrine comes not from technologies developed by armed forces, but from the phenomenal pace of civilian computing power.

The vision of people such as Admiral William Owens, who retired last year from the board of the US Joint Chiefs of Staff, is that IT will take data from a wide range of sensors around the battlefield and fuse it into a single clear picture which a commander can use to direct the fight.

Some of that information would then be spread down through the chain of command, along with specific orders, to every soldier on the battlefield. The result should be clearer, faster, and better decisions, with a much greater coherence in a battle group. For the first time in history, commanders may be able to understand fully what is going on throughout the battle area and bring their forces to bear in a co-ordinated fashion.

That, at least, is what the optimists hope. And the elements which could make such a vision into a reality are beginning to emerge.

First, the sensors to detect the exact location of enemy forces are being steadily refined. The US, Russia and China have long fielded spy satellites, but the resolution available through equipment such as the US "Keyhole" spy satellites will mean that the entire earth's surface will be mapped down to a resolution of a few centimetres by the turn of the century.

That technology so impressed President Mitterrand of France during the Gulf War, that he immediately ordered a crash programme to duplicate the US capabilities. Aerospatiale has now launched its first Helios satellite, and wants to co-operate with Daimler-Benz Aerospace on a second Helios II - Horos joint infrared and radar satellite programme.

Other spies are also at work. Rumours continue to circulate about an Aurora spyplane, built by the US and said to be capable of 3,500 mph, which would act as the successor to the Lockheed U-2 and SR-71 "Blackbird" spies in the sky. The Pentagon firmly denies that Aurora exists, but even if it does not, the U-2 and other reconnaissance aircraft provide a more detailed picture to back up the views from space.

Closer to the battlefield, the long-standing Boeing Awacs E-3 "Sentry" aircraft now acts as an indispensable air traffic control and air battle manager: one which has been proved in combat during the Gulf war. These Sentries, with their distinctive mushroom-shaped radar domes, will be helped further when real-time data between all fighter aircraft, giving every allied pilot a full picture of the battle for the first time.

Newer technologies will also help the ground commander assemble a similar picture. Northrop Grumman of the US is now delivering the E-8 "J-Stars" Joint Surveillance Target Attack Radar aircraft to the Pentagon, and is hoping to persuade the European Nato allies to buy a fleet of the aircraft similar to the Nato Awacs jets.

J-Stars can monitor the movements of tanks or armoured personnel carriers from 200km behind the front line, and was originally designed to manage a European land battle. But it can also be used to build up a radar picture of the location of forces, and has been used in Bosnia to track violations of the Dayton peace agreement. J-Stars can be used even when ground observers are blocked from approaching weapons collection points and greatly helped the Ifor troops implement the Bosnian peace.

On the battlefield itself a wide range of pilotless drone aircraft with radar or video cameras are being developed to spot mobile enemy units. Systems such as the Lockheed Martin "Longbow" radar being fitted to US and UK McDonnell Douglas Apache helicopters will "paint" the entire battlefield in a few seconds, fixing the position of all armoured vehicles.

Weapons are also being developed to make use of this data. Once the enemy is located, speed is of the essence, so that the target can be destroyed before it has a chance to move. The Pentagon last year granted Boeing a contract worth over $1bn to develop an airborne laser, which could instantly destroy missiles hundreds of miles away.

IT is also being applied to ever more accurate cruise missiles, so that fixed points such as command bunkers or communications sites can be destroyed. What seemed remarkable in the Gulf War is now becoming commonplace and relatively cheap.

But the trickiest part of battlefield digitisation lies between these two tasks of acquiring targets and dispatching weapons to destroy them. Data fusion is the trendy name given to the processing problem of bringing together all the different sources of data and integrating them into a coherent picture of the battle.

Companies such as GEC-Marconi, BAe-Sema, Siemens Plessey in the UK, and Lockheed Martin and EDS in the US, as well as a host of others, are queueing up to take on the challenge. Yet with many of the sources of information providing different types of data and protocols, the task of fusing the data in battle conditions is fearsomely difficult.

Three examples from the UK demonstrate some of the pitfalls. The Bowman battlefield radio programme was originally designed as a straightforward network using commercial equipment for use by the British Army, and pitched a team from ITT industries against a consortium of Siemens Plessey and Racal Electronics.

However, as the possibilities for battlefield digitisation started to emerge, the Defence Ministry kept increasing the specifications it wanted from the system, with the result that the programme has been repeatedly delayed and costs have soared. In part, this is understandable: in an area of rapidly moving technology, it does not make sense to crystallise to early a system which will be in service for a generation.

The command and control system of Britain's Type-23 frigates has also come in for repeated criticism because of the difficulty it has had in integrating all of the data from the ships sensors and operating the weapons at the same time. The difficulties have now been largely fixed, but the task of integrating millions of lines of computer code from many sources remain formidable.

In the US, the Pentagon is toying with the overall idea of a "system of systems" integrated command. But early trials with part of the equipment, pitting soldiers from "Force XXI" with hi-tech data links against conventional troops have been disappointing. Each soldier ended up carrying an extra 40lbs of computer hardware, with little to show for his pains. Such technical problems will eventually be cracked, though it is likely to take longer and cost more than enthusiasts such as Admiral Owens would believe.

Whether it will really blow away the fog of war is a different question. Enemies are likely to develop defensive responses, including false target signals, jamming, electronic warfare and information sabotage.

There is also the ever-present threat from code-breakers. The Pentagon seems happy that its encryption methods are way ahead of cracking methods, yet Pentagon computers are regularly penetrated *(see report on cyber warfare, facing page)*. Transmitting the entire allied information base on a radio web would be highly risky unless the links really are secure.

As with other developments, the grandiose Revolution in Military Affairs seems unlikely to eliminate the fog of war. Instead, the uncertainty, fear and mistakes are likely to drift into the cybernetic battlefield.


Helping to keep the peace: an airborne technician uses the J-STARS radar surveillance system to monitor the movements of tanks or armoured personnel carriers. The system has been used extensively in Bosnia to track violations of the Dayton peace agreement


Small and powerful: Litton Data Systems claims this is the world's smallest, 'ruggedised' military 486-based palm-held computer

Gaining 'information dominance' from the air with Joint STARS – which is a Surveillance Target Attack Radar System, using SAR (synthetic aperture radar) and MTI (moving target indicator) technology

DEFENCE AND THE MILLENNIUM BOMB • By [illegible]

Leaving nothing to chance

Military chiefs order checks on weapon systems with embedded chips which may not recognise the year 2000 date change

Military experts on both sides of the Atlantic are trying to face down what could be the most serious peacetime threat to the effectiveness and reliability of their operations since the end of the cold war: the so-called computer "millennium bomb" problem.

At its most simple, it is merely a glitch in the way dates are recorded that prevents computers from differentiating the year 2000 from the year 1900, because most older computer systems were only programmed with a two-digit date-field to serve them until the end of the century. But computers with two-digit date fields are everywhere in both British and American military hardware – including "embedded" computers that are part of missile systems.

According to Robin Guenier, executive director of the UK government's Taskforce 2000 group, senior military officials are concerned about what will happen to missile systems that have embedded chips in them designed to maintain and record information about when the missiles have last been serviced. Some of these missiles are apparently designed to completely shut down when they have not been serviced for a specified period.

Guenier says he has been told in discussions with military officials that when the Year 2000 rolls around, these systems will record their current date as January 1, 1900 and therefore the calculated date since last service will be *decades* – causing the systems to instantly shut down.

"The problem with embedded chips was probably the bigger part of their problem – and logic chips are embedded all over the place," he says. "Many are old, the manufacturers don't exist any more – therefore finding and fixing them can't be done in an automated fashion. It is a big, important and disturbing job."

American officials are even more blunt: Guenier says that at a Washington conference, he was told that "if [Iraq's dictator] Saddam Hussein wanted to launch an attack on the US, the first day of year 2000 would be the time to do it".

Needless to say, the problem has been very much on the minds of US government officials and the US Department of Defense (DoD), which has held a series of meetings with the US House of Representatives Subcommittee on *Government Management*, Information and Technology. The latest meeting was held last month when the DoD reported that its plans for handling the crisis were "on track".

Still, in reports dating back to last year, the Defense Department has admitted that embedded chips in their weapons system do represent a unique problem. Many year 2000 products do not work with the older languages. As a result, the department will be required to re-allocate resources to solve the problem manually or to develop "in-house" automated support tools.

The DoD has a number of embedded weapons systems that contain computer chips. "Usually, the DoD is the sole customer of such chips," the department explained in a briefing to the committee last year. "The solutions to the year 2000 problem may require replacement of the old chips with new chips. New production lines for new, year 2000-compliant chips may be required. This could take significant time and be very costly."

Meanwhile, the Congressional Research Service Report on the Year 2000 issue prepared for US military agencies last year, highlights the unique concerns of the DoD that set it apart from other Federal agencies.

"Hardware changes must be made in some weapon systems whose clocks store dates using two-digit codes," explained the report. "Computer chips that store dates in 'firmware' may have to be replaced on missiles and other weapon components.

Some of those chips, however, may no longer be in production.

Armed and dangerous? Maybe not – if missile clock systems do not know what day it is

In addition, the DOD has many unusual computer languages for which software analysis tools are not commercially available. Given the limited time and resources, the DOD is focusing on correcting its mission critical systems, and may use temporary fixes for other systems."

Finally, statements made by US Assistant Secretary of Defense Emmett Paige, Jr, to the House of Representative committee last year, further underline the military's concern about this issue: "Inaction is simply unacceptable; co-ordinated and collaborative action is imperative. We have taken action to address the Year 2000 issue, and we will continue to take action," he pledged.

"We are placing particular emphasis on our weapons systems and on systems related to safety. Fortunately, weapons systems are, for the most part, much less date-intensive than most business information systems, so there are fewer Year 2000 'fixes' which need to be made in them.

"Nevertheless, we still have to check all weapon systems for the Year 2000 problem. When we are dealing with weapons and their delivery systems, we must leave *nothing to chance*."

Systems security and the year 2000 date problem: plus interview with leading authority, Peter de Jager; see pages 5–7

INNOVATION • By Michael Dempsey

How defence cuts trigger new software business

IT administration *systems help to* boost efficiency amid severe cash constraints

The presence of computer power in expensive military equipment, the "big ticket hardware" that takes up so much of defence budgets, is taken for granted. The information processing element of fighter aircraft, known broadly as avionics, can now account for up to 50 per cent of the development costs of a new type.

Overall defence spending has come under pressure since the end of the Cold War, but this has not dented revenues for the defence divisions of software companies. Anthony Cole, defence director at the UK systems house, Logica, has seen UK revenue from the sector rise by 50 per cent over the past three years. In its last six months Logica has turned over £12.4m in defence, 8 per cent of its total revenue for the period.

"At a time when there's pressure on defence budgets, IT is needed more than ever," Cole explains. Military IT spending on administration systems can deliver much-needed efficiency and reduce the number of personnel tied down at the "blunt end" of the military machine, he says.

For front line forces, the constant reduction in assets available is driving orders for companies such as Logica – "it's a fact of life that we can afford less and less *aircraft, tanks and ships*. Clever technology can help us achieve results without extra military platforms," says Cole.

Software contributes significantly to the speed at which military information is disseminated and interpreted. Neural networks, a school of software that *involves interconnected* pieces of software analysing information within pre-ordained rules, were a key component of a joint project between Logica and the Defence Research Agency's Advanced Image Processing Terminal.

The idea behind the AIPT was to allow neural networking software to search through thousands of images taken by a reconnaissance camera and identify "the pictures that matter" by associating them with recognised patterns.

This process is made possible by algorithms, written by Logica programmers, that enhance the visual images in the first place. AIPT was thrust into the front-line during the Gulf War, when the Royal Air Force used it to analyse film of target areas taken by Tornado aircraft.

The application of neural networks to defence problems reflects a long journey undertaken by software houses trying to exploit the elusive realm known variously as artificial intelligence or expert systems.

Exploiting this esoteric area has presented many problems, but the defence community seems to have found its way past them.

In the US Nasa's Ames research facility has turned to neural networks to help battle-damaged fighter aircraft make it back to base.

The $5m Smart Aircraft project is taking to the air in a specially-modified F-15 fighter. Joe Totah, an aerospace engineer at Nasa *Ames, explains that the* Intelligent Flight Control Program "observes patterns in the real world and then learns to carry out different tasks".

The idea is that the IFCS will send to signals to the jet's control surfaces, based on sensor data that tells it how conditions vary from what would *normally* be expected.

IFCS will take a long time to find its way into production aircraft, but future generations of US fighters could rely on it to stay aloft despite severe damage.

The productivity gains trumpeted by software developers are having an impact on military projects. Warship builder Vosper Thorneycroft employed mathematical modelling software from US supplier Matlab to design the autopilot on Sandown Class minesweepers.

This small piece of technology allowed Vospers to exploit one of the minesweepers' most important characteristics, a set of thrusters under the hull that can swivel in any direction.

This matters in the world of minesweeping, where a vessel needs to hover over a fixed point and then move slowly and methodically over the seabed without interference from tidal patterns.

> Nato approves the purchase of off-the-shelf software products

Excess use of the thrusters interferes with sonar signals, so an effective autopilot can make a huge difference in the hunt for sophisticated mines built to lie on the seabed and then fire torpedoes in response to the distinctive *sonar signature of target* ships.

Henry Robinson, a former Vosper employee who now works with the company as director of an independent consultancy, H Scientific, says Matlab allowed him to devise a very specific neural network. "It's a classic example of looking for patterns and *making associations*: in this case, saying 'this is what the wind and the tide does, so this is what the ship will do' ".

Reliance on commercial software products fits in with a Nato-approved procurement philosophy of 'commercial off-the-shelf', or Cots products, *(see also computer security report, page two of this Review)*.

The Royal Navy's most sensitive warships, the Trident missile-carrying Vanguard submarines, are getting a whole new suite of sonar with associated command and control system courtesy of BAe Sema, a 1,600-strong software house.

BAe Sema uses software from French company Ilog to model the graphics that allow naval personnel to interpret and react to complex computer displays while operating under the stress of warfare.

Ilog cuts back on development time by employing pre-written chunks of code that generate the desired graphical interface.

Desmond DeLandro, technical director at Ilog in the UK, points out that warship design has changed dramatically in the past two decades: "You have no choice – you must use IT to put a warship together today because they are four or five times as complex as they were, 20 year ago. We now have more sonars; you have to analyse threats a lot quicker and you have less people to do it with."

The entire BAe Sema program for the 16-strong Brit*ish submarine fleet is billed* at £45m. Pressures on defence spending will continue, but ironically that should guarantee business for any software house that knows how to boost productivity in the military machine.

ELECTRONIC WAR GAMES • By [illegible]

The battles rage on

The 'virtual battlefield' and simulation offer many advantages over physical war games

The Cold War may have ended, but battles still must be fought and armies trained to fight them. Simulation systems have thus largely escaped defence cuts and the latest simulation technologies allow today's war games to be both cost-effective and realistic.

The simulation market has changed dramatically in recent years as low-cost networked simulators gradually ease out the expensive dedicated simulators that have existed since the 1980s. These traditional simulators aim to faithfully reproduce what you see through the window and the physical movement of the airplane or tank. A high-end flight simulator may cost as much to build as the product it is simulating – but operating costs are much less.

Flight simulators continue to represent the biggest share of the $10bn worldwide market for military simulation systems, according to the US analysts, Frost & Sullivan.

Vehicle and weapons simulators have carved out small niches, but the fastest growing area is mission simulation, including networked simulator systems. These allow war games to be played simultaneously by players in different locations and so simulate battles and wars. By networking together systems representing tanks, weapons and aircraft, armed forces hope to achieve the closest thing possible to real warfare.

Many advantages

The "virtual battlefield" offers many advantages over physical war games – the traditional way to test strategies and new equipment. "The US Department of Defense is doing less and less physical war-gaming," says Warren Katz, chief operating officer at MAK Technologies, a leading US *supplier of simulation software to the* military.

Physical war games are costly, suitable venues are hard to find and they face growing opposition for environmental and political reasons. "Friendly fire" casualties and security concerns are further problems.

Early simulators were costly stand-alone systems that could only be used by one individual or crew and so could not train forces in collaborative *tasks. In 1983, the DoD invented* a technology, called Distributed Interactive Simulation (DIS), to allow simulations to run on a network of cheaper simulators typically costing $250,000 each.

In a DIS game there is no central computer and so each simulator has to 'talk' to all the others to ensure they have the up-to-date data on every object's position and speed. Eliminating the central server reduces the time lag between one simulator sending information and the others receiving it.

Realism

This is vital to the realism of the simulation: when one tank simulator fires a shell, enemy tank simulators need to know about it as soon as possible to take avoiding action. One of the features of the DIS protocol is that simulators can "dead reckon" the future position of each simulated object and this helps reduce network bandwidth – each object typically needs just 250 bytes a second.

Networked simulations involving more than 5,000 objects have been performed in the US. High-speed local area networks and leased lines were traditionally used to link players in DIS war games, but four years ago the DoD created its own intranet, called the Defence Simulation Intranet, to allow players anywhere in the US to take part.

DSI guarantees the bandwidth needed to support a simulation – something the public Internet cannot do. The DoD is investing up to $500m a year to improve DIS and is now looking ahead to the next generation of modelling and simulation software.

To do this, it has proposed a more advanced technology, called High Level Architecture. This has various advantages over DIS – it will allow several war games to run simultaneously on the same network, *for example*.

As with other areas of defence industry, the simulation industry has not been immune from the shift to cheaper off-the-shelf technologies.

"To run DIS before, required engineering workstations but now it can be done with Pentium-based PCs," says MAK's Mr Katz. In December, MAK announced a new PC-based software product designed for the cost-conscious military simulation *market*. The product, VR-Stealth, provides a 3D bird's-eye view of a DIS battlefield and allows observers to "attach" to a DIS object such as tank or airplane and unobtrusively watch the battle as it happens.

VR-Stealth can generate detailed images using just a a Pentium PC and a low-cost graphics accelerator card. "The cost of 3D image generation hardware is plummeting," says Mr Katz. Last November, Real 3D, a subsidiary of US defence group Lockheed Martin, unveiled a chipset for PC graphics accelerator cards which it claims matches the performance of high-end workstations.

The chipset draws on Lockheed Martin's experience in building combat simulators and Real 3D was set up to find civilian markets for the technology. MAK also sees opportunities in the civilian market from modifying its software to work better with slower dial-up Internet connections. This would allow consumers to play multi-user 3D games over the Internet. Analysts believe this market could be worth $1bn by 2000.

Training systems

The US military has started to use personal computer 'arcade game' technology for some simulations, such as close combat. "It's an immersive simulation, but it's not physically realistic in terms of what you see on the screen," says Andrew Maurice, image simulation manager at the UK systems house, Logica. He believes many simulations require greater realism than PC-based technologies can provide.

For example, Logica developed realistic computer-generated images for a training system for a British Army missile launcher. The system replaces the photographs and videos traditionally used to train operators. It contains images for 170 different targets and can simulate different lighting conditions and target distances.

According to Mr Maurice, such systems cannot be replaced by PC technology without sacrificing realism – "the level of detail is just too great," he claims.

INTERNATIONAL MARKETS • By Geoffrey Nairn

US keen to learn from Israel's experience

Israeli defence contractors excel in developing "dual use" technologies which have both military and civilian uses

"To secure peace, you must first prepare for war". Israel adopted John F Kennedy's maxim long ago and its IT industry has become a leader in defence technology and finding commercial spin-offs for technologies, designed originally for war.

The uneasy peace in the Middle East ensures Israel's IT companies need never lack defence work or skilled technicians fresh out of military service and trained in the latest technologies. The country has a world-class reputation in areas such as digital signal processing and encryption technology thanks mainly to military-funded projects in these fields. But despite the heavy military emphasis, Israel's IT industry is also successful in many commercial markets and has been particularly effective in finding civilian uses for military technologies.

While defence contractors in other countries are now trying to embrace "dual use" technologies – those with both military and civilian uses – Israel has been doing it for years.

The US is particularly keen to learn from Israel's experiences and the two countries have set up a task force to promote Israel's successes with dual-use technologies and find US partners.

One of the leading exponents of dual-use technology is Tadirin, Israel's largest electronics company, which produces telecoms equipment, defence communications, IT and electronic systems.

In 1996, 33 per cent of its $1.1bn revenues came from the defence sector but the share is dropping – it was 35 per cent in 1995 – as Tadirin seeks out non-defence markets for its products. For example, Tadirin subsidiary Elisra Electronic Systems is best-known for its electronic warfare systems and sophisticated jamming technology. But it has recently started to expand into non-military markets.

In 1996, US firm Qualcomm placed an order worth $70m with Elisra to use its communications technology in Qualcomm's TrailerTRACS, a satellite-based vehicle tracking system.

TrailerTRACS allows truck fleet operators to keep track of their trailer units using a satellite network and small terminals mounted inside each trailer. The terminals are made by Elisra and based on technology originally developed for resilient battlefield communications.

Another Tadirin subsidiary, ATL, is turning its expertise in real-time military software, such as air defence command and control systems, to more peaceful uses. It has developed commercial real-time applications in various areas, including automated guided vehicles, telephone switching, automated testing, robotics and vision systems.

Tadiran's Tactical Communication division makes radio sets and military computers for Israeli and foreign defence forces. Its technologies too are being adapted to a variety of civilian uses, such as intelligent transportation systems, conveyance of containers in seaports and video compression applications. The Internet has created a whole new market for the Israeli IT industry and a new Diaspora of military-trained Israeli technologists who are making their fortunes in California's Silicon Valley.

VocalTec, VDOnet and NetDynamics are just three of a growing number of US software companies founded by Israelis who honed their technological skills during military service or working for Israeli defence firms.

VDOnet has used Israeli strengths in encryption, networking and signal processing to build a software-only video communications product for the Internet. Last October, Microsoft and phone company US West both bought stakes in VDOnet.

NetDynamics' Java toolkit allows companies to publish *information stored in their* legacy databases on corporate intranets. More than 300 companies have adopted the product, and Netscape includes it as a key element in its toolset for developing intranet applications.

Vic Morris, NetDynamics European vice president, believes NetDynamics' product stands out because of its strong security features, which he attributes to the Israeli founders and the country's worldwide reputation for security technology.

The two founders of Internet telephony firm VocalTec started their hi-tech careers doing obligatory military service in Israel and learned to program as a hobby. For several years they dabbled with ways of transmitting voice over data networks and in 1995, VocalTec launched its first product, Internet Phone, which allows PC users to hold long-distance telephone conversations over the Internet for negligible cost.

Many Israelis have emigrated to Silicon Valley to commercially exploit technologies and skills developed working for the military. But the Israeli government is now encouraging would-be entrepreneurs to stay home with tax breaks and R&D *grants*.

GEO Interactive Media, for example, is one of several Israeli firms skilled in multimedia technology. Its first product was an aircraft recognition system for the Israeli defence forces, but it has since expanded to offer commercial multimedia *training systems for European* and US firms.

It has also adapted the technology to the Internet and offers a browser plug-in, called Emblaze, that allows full motion animation at modem speeds of just 14.4 kbits a second.

IT in Israel: a special report by Paul Taylor will appear with the next issue of the FT-IT Review in May

WEB SECURITY • By Philip Manchester

Complex barriers to electronic commerce

While technical solutions abound for solving security problems on the Internet, there are still difficult political hurdles to be cleared

The growth of commerce on the Internet and the World Wide Web emphasises the importance of an internationally agreed approach to security.

The consultancy Price Waterhouse estimate that \$500m worth of goods and services were sold over the Web in 1995. While this is currently only a fraction of the total value of credit card sales of about \$500bn, it is a significant and growing part of the business world.

The trend is expected to accelerate: the US market analysts, Forrester Research, forecasts that the number of business users on the Web will be 14m by the year 2000. Home use is expected to grow even faster with 32m users by the same date.

A large part of the increased traffic on the Web will involve financial transactions. The economics are irresistible: CSC Index Research notes in its 1996 report, *Rewiring the Enterprise for the New Information Marketplace*, that the Internet has the potential to cut the cost of doing business dramatically. Peter Hill, international director at CSC, observes: "We have calculated that in the US the cost of a typical transaction over a home shopping television channel is \$3 to \$4, whereas electronic shopping costs over the Internet can be as low as 15 to 20 cents."

But this advance can only happen in a secure networking environment: "There are a lot of solutions for improving security – but they are all different and they do not inter-operate with each other," says Dr Michael Waidner, manager IBM's Zurich-based network research group.

Dr Waidner is the technology leader on the Secure Electronic Marketplace for Europe (SEMPRE) project which aims to harmonise approaches to security across Europe. Sponsored by the European Union (EU), the project began in September 1995 and is expected to be completed by September 1998.

"We wanted to make a framework where we can integrate all of the different security models and get them to work together," says Dr Waidner. "We have created a layered model, based on business documents where you can make parts of a document operate at different levels of security."

FT IT

Directions in system security

Here and on the next two pages, FT writers look at the key issues, including the Year 2000 date problem.

The first phase of the project aims to create a secure environment for electronic shopping. The priority is to create a secure channel between the retailer and the purchaser, regardless of international borders.

Dr Waidner says that many of the technology problems *have* been solved, but there are political and social barriers to overcome before international agreement on security will open the door to international electronic commerce – "from a technical point of view, security is not a problem. The problem lies in harmonising contract law between different countries".

The Organisation for Economic Co-operation and Development (OECD) is also pushing forward with plans for international standards for security in electronic commerce. A set of recommendations is expected to be published later this month.

"The plan is to come up with internationally-agreed regulation for cryptography. We need to get it tied down now because lack of agreement is acting as an inhibitor for internationally-based electronic commerce," explains Dr Paul Dorey, director of group operational risk at Barclays Bank.

Barclays is involved in the project as part of the Business Advisory Council and is keen to see an international agreement as quickly as possible.

"We want the ability to use a sufficiently strong encryption to carry out transactions around the world – as strong as the procedures we currently use for cash machines. We are particularly interested in ensuring the integrity of financial transactions so they cannot be interfered with – otherwise the whole system becomes meaningless.

Place your orders: electronic shopping over the Internet has great potential – there could be 32m home users on the Internet by the year 2000, claim analysts. In the US, the cost of typical transactions via the Net are far cheaper than transactions via home shopping television channels

"Often, it is not necessary to keep a transaction confidential – but it *is* important that it cannot be altered," Dr Dorey adds. The OECD will publish a set of recommendations which it hopes will be included in individual national legislation – in much the same way that its Data Protection regulations led to national Data Protection Acts. Although full details of the recommendations will not be made public until later this month, Dr Dorey says that they will be based on the idea of a "trusted third party" to authenticate financial transactions – "it is not only the security of the actual transaction that is important. We need mechanisms to ensure that someone is who they claim to be and they have the authority to carry out a transaction. The trusted third party will, in effect, vouch for the parties in a transaction."

This process ensures "non-repudiation" of transaction, thus making it a legally-binding contract. Dr Dorey says that "trusted third parties" will be responsible for auditing electronic systems and procedures to ensure they meet the standard.

"This is a new dimension for security of electronic systems. It has to be at the same level as running a cash dispenser where you might be required to stand up in a court of law and state that a transaction was authenticated."

Further international efforts towards harmonisation of security procedures are also being sponsored by the International Chamber of Commerce, (ICC).

Project E100, scheduled for completion in April 1998, aims to produce a standard for Uniform International Authentication and Certification Practices, (UIACP).

The ICC has published a paper "to stimulate discussion", but as Dr Dorey points out, many of the barriers to international agreement on security have little to do with the technology: "Many of the barriers are political, social and managerial – and they are likely to be much more difficult to resolve."

COMPUTER-RELATED CRIME • By John Kavanagh

Beware the Trojan Horse

In efforts to solve the year 2000 date problem, some companies are side-stepping normal management controls to get work started as quickly as possible, say industry observers

More than 75 per cent of fraud is committed by employees, and computers are not stopping them but actually creating new crime opportunities and helping to perpetrate old favourites.

That view – from Authentec International, a UK company which helps police in computer-related crime investigations, is made all the more worrying by the fact that computer-related fraud has cost UK companies alone £1.2bn in the last two years.

The urgency of adapting systems to handle date calculations after the year 2000 *(see reports, next page)* has added an extra dimension to the issue.

Europe's biggest IT professional body, the British Computer Society, says companies are side-stepping normal management controls to get work started as quickly as possible. It also points out that the year 2000 means companies are having to bring in large numbers of outside staff who are not known to them. This is opening up a risk of insertion of so-called logic bombs into business systems: pieces of code which affect the way programs work.

Authentec adds that the recent elimination of layers of management means companies have to rely more than ever on individual integrity, because the remaining managers no longer have time to look at paperwork such as account reports and expenditure authorisations in detail. However, current employment trends, especially in IT, work against this increased dependence on integrity.

"The emotional contract with the employer has changed, because people no longer see a job as being for life," says Dr Paul Dorey, director of operational risk at Barclays Bank. "Their motivation now is not loyalty to the employer but to themselves, plus a desire to be professional in their work. We certainly tend not to go for people who are motivated only by money."

As well as setting up formal access controls, Barclays aims to prevent fraud being written into programs by having separate teams work on different parts of a system.

"The potential insertion of Trojan horse code is a big issue," Dr Dorey says. "We might have two development teams, for example to separate the validation routines from the payment programs. You can't do this for every system, and you don't need to – although you need to be aware of all the critical paths: sometimes some apparently insignificant process could be on a critical path of a key overall process."

Dr Dorey believes the growing involvement of IT staff with their end-users in the business is creating extra risks – "in the past, the systems people tended to work on the central mainframe and did not have business knowledge of the applications systems. But as computing moves more and more to people's desktops, more and more people on both sides understand both IT and the business processes."

Even so, he thinks that interference with programs is a relatively minor risk – and he returns to the integrity issue. "Most security breaches are to do with misuse of authority, not hacking," he says. "Someone who has authority to move a file might move it to the printer. We caught one contractor browsing information that was confidential, although he had authority to access that file in his systems work."

Dr Dorey says automated auditing systems can now monitor who is accessing which files and programs, and the knowledge that these systems are in place is a great deterrent. But much of the risk still has to be reduced at the recruitment stage.

This applies equally to permanent staff, contract staff and service suppliers' employees, and Dr Dorey has seen a considerable change here in recent years.

"All these people are working for us, so all are the same as permanent staff," he says. "We expect external companies to

Continued on page six

Password problems • By George Black

Computer systems are becoming harder to crack

Access control systems should become easier to use and more secure within the next couple of years

The two big security problems which have troubled many information technology directors are how to effectively authenticate the identity of users and how to reduce the number of password systems in use.

Both of these difficulties could soon be overcome, at least in part, by technological advances.

Most password systems today do not stringently check the identity of the person applying for access – "in fact, the systems in common use are most insecure," says Mr John Holland, a director of software company Axent Technologies, which supplies security solutions.

These problems are caused by technical weaknesses of the systems installed and by flaws in the way they are implemented. Many systems do not encrypt the password during the request for access and are thus exposed to interception.

If passwords are hard to remember, people write them on pieces of paper and stick them to their personal computer, for anyone to see. The more passwords people have to remember, the more likely they are to do this.

However, if passwords are too easy to remember, then they are probably easy for anyone to guess. Access is made easier for the intruder because people do not change their passwords as often as they should, so their secrecy value diminishes.

Passwords used by people who have left the organisation are not changed as quickly as they should be – particularly if the employee left in dispute. The increased use of contractors also adds to the complications.

System manager and maintenance engineer passwords are not properly guarded and are often used by people who should not be allowed to do so. Sometimes, not realising the power they have been given, they use it to dire effect.

Up to now, only a few organisations to which security is paramount, such as banks, have thought it worthwhile to invest in developing strong authentication systems. The rest have got by with rudimentary security which in many cases has obstructed *bona fide* users without doing much to keep out unauthorised ones.

However, these problems could soon be overcome in several ways. Card tokens which use a one-time password principle have been used successfully for remote access to corporate systems and could find their way into wider use by office-based staff.

Each access demands a different password which the card can generate on each occasion. This should remove the risk that a password could be re-used to gain illegal access. One-time passwords are expected to become much more prevalent.

The use of personal identification numbers (PINs), generated randomly by card tokens, is replacing passwords in some companies.

> High costs still rule out the wide use of biometric systems

The main concern that companies have with adopting such new technology is the high cost, both for the equipment and for its management.

Tokens at present cost around $50 each, but that price should drop quite rapidly. Experts say that token cards may soon start to be replaced by smart cards.

In two to three years, PINs could be held on smart cards at a cost of less than $10 each, predicts Mr Jeff Carr, managing director of access systems supplier CKS.

However, Ms Helen Flynn, an analyst at the Gartner Group, doubts whether employers will want system password information to be stored on the same smart card which employees use for personal matters.

Getting applications owners to co-operate over sharing smart cards to keep costs down could therefore be a barrier to widespread adoption.

High cost is one of the factors which at present rules out biometric identification systems – such as fingerprint or retina scanners – for most users. Also it is doubtful whether people would accept the intrusiveness of such systems.

But systems designers have not given up on the idea of developing biometric technology which would be both cheap enough and discrete enough to win over the market.

A system which immediately recognised a face or a voice and so did not require a password or PIN, could surely be a winner.

The other big security problem for IT managers is the need for users to sign on separately to several different systems.

An organisation which has computers with several operating systems may have different passwords systems for each and for different applications.

The recent spread of Microsoft's Windows NT has increased the number. Users sometimes have as many as 50 passwords, according to a Butler Group study.

There have been many failed attempts to develop single sign-on systems, but products of this type are starting to come on the market.

An important question is whether they can be applied across an entire organisation, as many users would like, but Ms Flynn thinks not. "You won't get one product that can handle all the access control requirements enterprise-wide, although we have seen some success at reducing the number of password systems in use over the past six months."

Axent's Mr Holland agrees: "An enterprise-wide solution would be an enormous task," he says. "The chances of getting everyone in the organisation to support such an effort are small. It is not realistic to attempt it."

It could take a huge effort just to work out an agreement on which systems each one of many thousands of employees should be allowed to access; deciding who should pay for the controls would be another obstacle. Meanwhile, Mr Holland recommends to his clients that they tackle the issue on a departmental basis.

INTERVIEW

It's later than you think

The world lacks 'the management will' to tackle the year 2000 computer date problem, says Peter de Jager, a leading authority on the so-called 'millennium bomb' that could potentially cripple many businesses

At least one per cent of established businesses may go bankrupt because of the inability of their computer systems to span the change into the next century – "this will cause a ripple effect through the supply chain and cause a mild recession, putting a huge number of people out of work."

This is "the *best*-case scenario" painted by Mr Peter de Jager, the internationally-recognised speaker and consultant who, for six years, has been warning the business world and information systems community of impending problems.

With just 993 days to go before the 20th century ends, analysts have estimated that the cost of defusing the so-called 'millennium bomb' could be $600bn, absorbing up to 50 per cent of the world's total IT budget from now till the millennium, *(see also an FT-IT new year special report on key issues in IT, published January 9, 1997)*.

More than 90 per cent of all computer applications in the world are "incapable of handling the date change because they only record the second two digits of the year," says Mr de Jager. "When '00' enters a two-digit year-field, it causes problems. There is really no debate because it is so easy to demonstrate. The only debate is how difficult it is to fix it."

Examples abound of problems to come. Unum Life Assurance in the US had a business rule that if a policy was not touched for five years, it was removed from the system. In order to do this, the computer system added five years to the date it was last used and compared the result to the current year, deleting the policy if it was less.

In 1995, 95 plus 5 is 00, which is less than 95, so current policies were deleted – "the program deleted more than 2,000 policies before someone noticed that the income of the organisation was beginning to dry up," says Mr de Jager. "This is the type of problem we can expect."

Mr de Jager does not ask people to simply believe what he is telling them, but to check their own systems: "anywhere you see a two-digit year, type in 00, and watch what happens," he says.

"In less than a day, they will convince themselves. But what is frustrating after six years is that people are so far 'in denial' that they refuse point blank to do the test."

In the early days of computing, programmers ignored the last two digits in the year in order to save storage costs. This habit has become entrenched, despite the arrival of cheap storage.

The problem this would cause has never been a secret. "Seminars on the issues of the day ignored it, but when we went down to the bar, we would have a grand old time laughing about the Year 2000 problem," recalls Mr de Jager. "People would say things like 'It isn't my problem,' or 'I won't be with this company then' and 'I'll have retired by then.' Others would say 'We will have replaced the software by then,' which is the biggest myth in the industry."

In 1991, Mr de Jager started speaking out about the problem – "I started to become an annoyance to the industry and I wouldn't go away," he says, adding that he is "not going to go away until we get this problem solved".

Mr de Jager believes he didn't start early enough in explaining the issues, although he was premature in terms of the willingness of the industry to accept the message. However, a company that started in 1991 would be in a better position today. Kaiser Pemanente in US had started early and, as far as he knows, is still working on it.

The US Inland Revenue Service is spending $120m to solve the problem and Nat-West bank has just allocated £100 million, he says. De Jager estimates that 35 per cent of businesses in the US are "active" about the problem, but his concern is with "the 90 per cent of businesses outside the US that continue to ignore this issue... they have their heads stuck in the sand," he says. "Consultants are out there, banging on doors, but they are getting turned away."

He points out that the UK government, which is doing more than any other, has allocated £170,000 to its Year 2000 Task Force – and £600m for a party to celebrate the arrival of the Millennium.

"It's ludicrous... and absolutely silly," he says. What frustrates him is that "there is nothing technically difficult about the problem and we have the capability to solve it. What we lack is an understanding that this job *takes time*, that there is a high cost in not completing it – and the deadline is fixed. We seem to lack management will to get on with it."

For some organisations, it is *definitely too late*, he believes. These businesses have no idea how big their problem is: every company which has gone into this and looked at it seriously has come back with one single message – 'I didn't know that it was this big.'

Unfortunately, 86 per cent of all IT projects are delivered late, or never. Worse still, he points out that most IT project managers have no experience of managing such big projects.

"The abysmal percentage of on-time delivery has not been communicated to business *managers. Instead, they* are being told that the year 2000 problem in their organisation is under control, that it's not as big as the pundits would make out and that IT will have everything ready by the end of 1998."

Managements are often clueless about the risks and seldom seem to understand that the organisations they manage rest upon a foundation of software code that has an expiry date of December 31 1999, at the very latest.

"There is no doubt that the IT profession has a lot to answer for. The IT manager now has to go in the board and say: 'We have been writing programs that cannot handle the year 2000.'

"The manager's first response is 'how could you be this stupid?'

"The IT people must then demonstrate that they are indeed *that* stupid. They must demonstrate, without a shadow of doubt, their incompetence. They must then convince management that *they* are the best person available to solve the problem!"

The failures are not all going to happen on January 1, 2000 says de Jager, who expects to see an escalating number of errors as we move closer to year 2000, with a sharp increase in 1999.

"If you are going to have a failure, you will prefer it if the system just stops," he says, "because then you can fix it and your data is intact. The worst situation is when it *appears* to be working perfectly, but some routine is quietly corrupting all your data with an incorrect calculation."

Clearly, organisations need to check and correct the coding of their programs, but there is no guarantee that they will work.

"There is this very strange notion that if you put the clock forward to the year 2000 and then run your application that somehow this demonstrates that your programs are year-2000 compatible, but it doesn't prove anything," says de Jager.

He advises taking test data and start moving the computer's clock forward, traversing the time between now and year 2000, so that users can see how the data and applications react as 00 information slowly starts percolating its way through the system.

"What proves it is compatible is if your system has got both 99 and 00 data," he says. "You must be able go back and forth over the millennium cusp with a business process."

The Millennium Bomb problem was totally avoidable, he says. Every new system *could* have used four-digit years, as should extensions to existing systems. Organisations could have had their existing programmers continually working on this the problem.

"It is cheaper to do something at a leisurely pace, not in a frantic rush, with sky-rocketing salaries," says de Jager.

"There is a tremendous amount of waste when you have to run very, very quickly just to stay in the same place."

Embedded processors are an area where there is a risk and some have been identified which fail. "We have no idea how big this problem is, but it makes us very nervous because we don't like unknown risks."

Mr de Jager has final piece of advice: "Don't be 'gun shy' of what this is going to cost. It *is* going to cost a whole truckload of money – but consider the alternative: the question is not *how much* will this cost to fix? The real question is: 'Do you want to continue doing business in the 21st century?'

"If you do, fix your problem."

So where will Mr de Jager be at midnight for the new millennium?

"If anybody wants to find me," he says, "I will be in Doolin in West Clare, the best place for music in all of Ireland.

Peter de Jager: 'The IT profession has a lot to answer for'

☐ *Peter de Jager, a Canadian citizen, has written and broadcast on the year 2000 problem in many countries. He was invited before the US House of Representatives' science sub-committee hearings to testify on year 2000 issues. He is also a special adviser to the UK's Year 2000 Taskforce.*

He was author of the ground-breaking 'Doomsday 2000' article in Computerworld in September, 1993. For more information about the year 2000 problem and users' experience with solutions, visit http://www.year2000.com.

☐ **Leaving nothing to chance: military experts examine year 2000 implications; see report, page 4**
☐ **Fixing the problem – beware the Trojan Horse: report, page 5**

Advice on the Year 2000 problem

Peter de Jager makes these suggestions for the business community:

Immediately communicate with the vendor of third party packages, "through legal counsel to ensure that their reply is not trivial".

Identify the problem that has been discovered and *find out from the vendor* when they expect to be able to deliver their year 2000 version.

"Pay very, very close attention to the response to make sure that systems you depend on to do business can be used," he says..

Find out from the vendor what exactly they mean when they say their product is year 2000 ready and how will their definition relates to other applications. Ask what, if anything, will it cost for the upgrade.

Software applications written in-house need to be verified by the IT *department. If they are* found wanting, there are three choices.

"You replace those applications with vendor packages, fix them or you just get rid of them because you didn't need to be running them in the first place. These decisions should be taken at a very high level," he adds.

"The third case, which a lot of people ignore, is packages that are used to do other things, such as spreadsheets.

"Many of these tools are to some degree or other 'year 2000 ready', but a *large number of users will* be using them incorrectly. You need to identify the risks in that area."

Executive checklist: Twenty important do's and dont's on the year 2000 issue appeared in the FT-IT Review on January 8, 1997.

FIXING THE SYSTEM • By Geoffrey Wheelwright

Pitfalls of 'weekend testing'

The chief executive officer of a leading US computer company says he has a way to allow companies to start testing their entire computer systems to ensure they are "safe for the next century" – using live, day-to-day data, without risk to the company's core business.

According to Michael C. Ruettgers, president and CEO of the $2bn mainframe storage giant, EMC, his company's large storage systems can offer so much capacity that a corporation's entire system can be duplicated for year-2000 compliance.

Many businesses attempting to make their computers year-2000 compliant are "getting it wrong", he says. They know the date fields of their software need to be able to have a four-character field for dates, instead of the two-character field used on many existing systems which assume that all dates are in the 20th century. But these companies are trying to tackle the problem by changing the system while they are using it – which frequently means "weekend testing" of conversions and risking many potential side-effects when they do so.

The problems inherent in weekend testing are legion. An example is the company that converted all its dates to be able to handle the year 2000 and beyond, then rolled the "system clock" forward – and found all its passwords had been deleted when they came in on Monday morning.

This was due to a security system that erased old system identities and passwords which had not been used for 18 months. Thus, when the clock was rolled forward to the next millennium, the system assumed all identities and passwords were outdated.

Ruettgers' solution is to use huge, high-capacity network servers to run a complete copy of the company's computer system in parallel with the existing system. This allows businesses to test all year 2000 conversions, using that copy of the system with "live" data that can be "mirrored" from the main network without bringing it down or putting data at risk.

He says this strategy means that testing date conversions can now take place all day, every day, giving the companies "a far better chance of meeting their biggest immobile deadline".

This argument recently won over US-based Comdisco Disaster Recovery Services, which completed a $4.8m purchase of EMC's Symmetrix storage systems in December to help its customers successfully minimise the cost and risks associated with ensuring their computer systems are year-2000 compliant.

The idea is that through Comdisco's customised millennium testing services, clients can test and validate

Continued on facing page

COMPUTER-RELATED CRIME

Wider acceptance of security controls

Continued from previous page:

follow a subset of our policies: some companies find they have to set up procedures in the first place, so our policies benefit them. They are increasingly accepting the need.

"In the past, some companies resented the fact that we wanted to audit their security controls. Today, *there's more awareness of why* we need this, and we, too, are clearer about what we are looking for. Our auditors now make random checks at appropriate levels, depending on the sensitivity of the work."

Suppliers endorse Dr Dorey's view here: "Clients must ask themselves if the supplier is going to be there for the long term," says Mr David Green, managing director of software company Sapiens. "The last thing we want to do is to jeopardise our client relationship."

Sapiens not only interviews potential recruits and contract staff and takes up references, but also approaches clients of the candidate's former employer for further references when possible.

"If they've worked for a big software company we usually know people there and can ask them informally," he adds.

Unisys has even greater unsupervised access to customer systems as a supplier of desktop systems and network services.

"We stress to staff that things they might not see as 'confidential' can be extremely so," says director Mike Anderson. "This is not only computer files but also orders for new equipment, which might tell a competitor of a big upgrade or change of direction.

"We have customers in the same business, and each is managed by a separate team; team-bonding is very important.

"Account managers who talk to the customers about their plans are not linked with the support groups. People in different teams naturally meet socially, but if they talk about their clients, it's a dismissable offence."

For all the concern, the risk of computer-related fraud or logic bombs in particular is very small, according to Dr Dorey at Barclays.

"It's simpler to use a manual process or steal a credit card than it is to break into a computer system," he says. "Security is just like any other management process, such as quality assurance or customer-service. It must be done professionally, continually monitored and kept up-to-date."

Cyber warfare report: see page two

SEEKING SOLUTIONS • By Geoffrey Wheelwright

A big challenge for mid-tier companies

Only the largest companies can afford top-rate services in an emergency

By now, the world's largest corporations have generally some idea of how they will tackle the year 2000 computer date problem.

But it is the middle tier of companies that face the biggest challenge, particularly when they must be year 2000 compliant for operations connecting with the systems run by the credit card companies, banks and other financial institutions with whom they are increasingly communicating electronically.

At least, that is the theory of Peter Preston, the UK sales manager of year 2000 software specialist, Usoft. And he says that unlike large corporations, where much of the year 2000 compliance work is being undertaken via conversion of existing code, "the middle strata of companies must really consider completely redeveloping their existing code-base to operate more efficiently".

Merely trying to fix the year 2000 bugs in an existing system is a costly, zero sum game that ends up costing vast amounts of money, he says. A fix only provides – at best – a system that works as well on January 1, 2000 as it did on December 31, 1999. In other words, fixing existing software does not buy any improvements to the software a company uses – it merely allows that software to survive.

For the kind of investment that a bug-fix approach requires, he says, that is simply not an acceptable return. "We have a several large to medium-sized organisations in the UK, US and Europe who are resolving the year 2000 problem via re-developing," he says. "They have tried to go the route of fixing it, but came to the conclusion that re-engineering existing solutions isn't an option – it is a waste of money."


Peter Preston: 'There will be no second chance'

Preston also emphasises that there will not be a second chance for those who delay their decision on which approach to take – and that the path to redevelopment may be dictated by the fact that there simply are not enough affordable, skilled programmers available to carry out code-fixes on older applications written in the popular languages of yesteryear, (such as Cobol).

He also suggests many companies are questioning the wisdom of keeping these older applications going – "there's a feeling abroad that the ability to predict the reaction of Cobol applications is vague at the best of times," he says.

"Yet it is a fixed deadline – and there's even a chance in the medium to large-sized companies that the best people will have already been sucked up by the extra-large companies who can afford to pay to get the people they need in an emergency.

"You will see situations where people who are trying to fix the so-called 'millennium bugs', by hiring Cobol programmers, only get three-quarters of the way through a project and run out of resources. It puts the risk profile of re-engineering much higher than it first appears to be."

While he admits that redesigning is not an option for every business – and particularly not for those which cannot afford having any system 'down-time' while their systems are being redeveloped – it can, however, provide a platform for growth, rather than being an irritating, although unavoidable, waste of time and money.

"The perspective our customers have taken is that through the use of business rules – and an effort to highlight the organisation of them to assist change within the company – we can help the company grow and, just as a side-effect, remove the Year 2000 problem," he says. "It's a positive stance, rather than a protective one."

Large organisations do not often have much spare capacity on their systems to test re-engineered versions of their systems.

"This means there is not a lot of warning if it doesn't work," says Preston. "And very large organisations that can't allow down-time don't have a lot of choice: they have spent so long right-sizing that they have right-sized themselves into a hole, in terms of capacity.

"But the organisations underneath those whose core systems are running on the mainframe can afford to run operations in parallel."

Testing the system

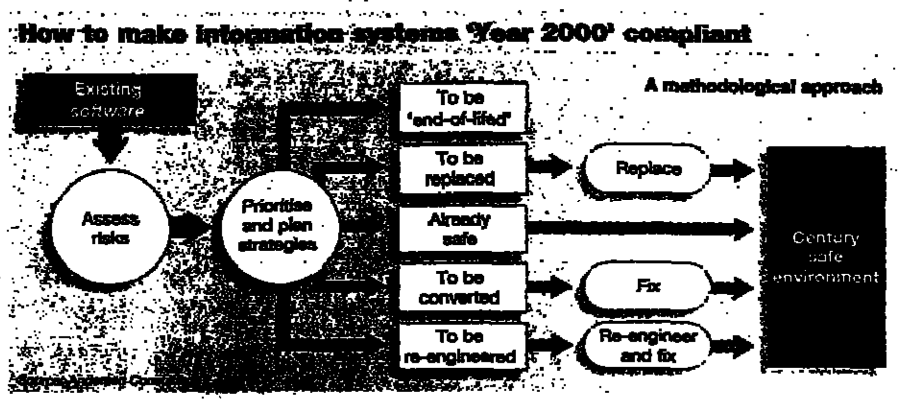
From facing page:

vast amounts of information on EMC Symmetrix systems while their computer systems are made fully compliant. With this latest purchase, Comdisco says that more than 15 terabytes of information are stored on EMC's mainframe and on open storage systems at Comdisco's disaster recovery and testing facilities worldwide.

"EMC provides the leading-edge storage technology that our customers need to manage any downtime or unexpected crisis," explains David Nolan, president of Comdisco disaster recovery services. "Companies need a secure and high-performance storage area to test their most critical data while they engage in the monumental task of converting their systems to handle the effect of the year 2000 date change."

Meanwhile, EMC's Ruettgers is bullish on the demand for this approach to the problem. "The market opportunity presented by the millennium crisis is huge. Industry analysts predict that more than $600bn will be spent worldwide on technology and services to convert computer systems. Businesses are expected to augment their existing storage capacity by 30 to 60 per cent to meet this challenge."

How to make information systems 'Year 2000' compliant



Defusing the millennium bomb

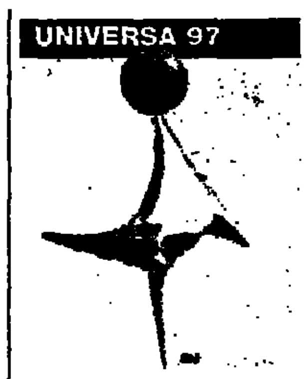
Lamentably few organisations in the UK – only eight per cent – have so far conducted a full audit in preparations for defusing the 'millennium bomb', according to a joint report by the Computing Services and Software Association, the Central Computer and Telecommunications Agency, the Department of Trade and Industry and PA Consulting Group.

While 70 per cent of IT managers are fully aware of the problem, 76 per cent consider it to be 'critical or serious', although 89 per cent cannot even guess at the costs involved and 52 per cent have made rough guesses, says the report. Meanwhile, only 15 per cent of senior managers are fully aware of the problem.

"The millennium problem arises from a deceptively simple issue, but incorrect date processing will be catastrophic for businesses unable to process orders, despatch invoices, calculate payments and process transactions," says the report.

For more details, contact Keith Ireland at the CCTA, e-mail: kireland@ccta.gov.uk (web site: http://www.open.gov.uk/cctahome.htmh); or Ray Brown at the DTI on e-mail: ray.browne@dtied.dti.gov.uk; also Nicki Blinkhorn, CSSA, e-mail: cssa@cssa.co.uk; or Clare Fortune at PA Consulting, e-mail: clare.fortune @ pa-consulting.com

UNIVERSA 97



Two days to go

The closing date for entering the Universa 97 pan-European awards to recognise the achievements of software and service companies, is this Friday, April 4.

The prestigious awards by the Open Group, sponsored by ICL and Siemens Nixdorf, in association with the FT-IT Review, will take place in Paris on June 12.

For details of the award categories, contact Marie-France Serruys, marketing co-ordinator in Brussels on telephone +32.2 772 88 88; fax +32.2.772 9298; or e-mail: mf.serruys@opengroup.org

Universa 97's site on the World Wide Web is: www.opengroup.org/award/1997/

Ways to win competitive advantage in a networked business world

Business leaders will receive an update on ways to win competitive advantage in the networked world at this month's InterForum '97 in London. Speakers at the one-day symposium on Monday April 14, include:

- Bob Dies of IBM's network division and a member of IBM's worldwide management council and board of directors.
- Andrew Boswell, ICL's group technical director and chairman of the UK Information Infrastructure Task Force.
- Paul Maritz, Microsoft's group vice president for applications and systems. Mr Maritz oversees the divisions contributing to Windows, the Internet and consumer productivity software, including Office Suite and Front Page.
- Dr John Crecine, a creative leader in computing and chairman of Virtual University International.
- Martyn Lambert, Sun Microsystems (UK), director of marketing and technologies. He heads a key Sun group, focusing on the demands of businesses looking to lever the commercial advantages of network-centric computing.
- Ronald Heinz, Novel's senior vice president, worldwide sales, heading a team of 1,500 sales executives; key markets include government and education, plus enterprise solutions.
- Denis Aull, Lucent Technologies' Internet communications business vice president.
- Joseph De Feo, president and chief executive of the Open Group; widely regarded as a world figure in IT operations. For seven years he led the IT and operations strategy for the Barclays Group.

Venue

The symposium at the Queen Elizabeth II Conference Centre in Westminster is organised by InterForum (a not-for-profit organisation, open to both vendors and users alike), in association with the Financial Times.

The event chairman will be Peter Martin, international editor of the Financial Times. FT-TV will be covering the event.

Philip Flaxton, executive director of InterForum says this year's "visionary symposium will build on the success of the 1996 event which attracted speakers such as Oracle's Larry Ellison and BT's Sir Peter Bonfield. InterForum is the advisory organisation that educates and supports UK Plc on the business value of the networked world."

Delegates to InterForum 97 receive automatic entry to Intranet Expo 97 management seminars at London's Olympia 2 on April 15-165.

- For further information on the London symposium, call InterForum in the UK on 0181 332 0446 (fax 0181 332 0448).
- More details are also available on the World Wide Web address: http://www.interforum.org

FT-IT DIRECTORY • FT-IT DIRECTORY • FT-IT DIRECTORY • FT-IT DIRECTORY

Document Publishing

Online Distribution

Web Authoring

Graphics Design Tools

Leading the way with innovative software solutions

Adobe

If you can dream it, you can do it.

www.adobe.com

---

1 OCTOPUS SOFTWARE LTD.

6 Kings Exchange, Tileyard Road,
London N7 9AH
Tel: 0171 609 3746, Fax: 0171 609 3742

OCTOPUS activity and contact management

makes business a pleasure!

When you need to know the status of a client or project quickly Octopus provides the details with a click. All activities, from telephone calls to word documents, are automatically attached to the contact record, increasing internal communication. The *total business history* puts you in control, improving client relationships.

OCTOPUS

Improve office productivity & communication, monitor activities and progress.

---

2 Accounting software ready for the year 1900.

---

3 BUILDING CORPORATE PARTNERSHIPS

- Hardware and software configuration to any requirement.
- Software support on Novell and Microsoft products.
- Upgrade consultation and on-site installation for hard drives, CPU's and memory.
- Cabling and networking solutions.
- Short and long term rental on supported PC's, Printers & Peripherals.
- In-house city based repair facility for all supported PC and printer requirements.

Tel: +44 (0) 171 608 3120
Fax: +44 (0) 171 608 3091

4,5 9,10

A Briefcase Guide for Senior Executives

European Monetary Union

The Challenges and Opportunities for Business

- Is EMU the sleeping giant behind the Year 2000 hype ?
- Has your software supplier planned for EMU ?
- What are the options open to your business ?

To receive your *FREE* copy of the EMU Briefcase Guide please see the insert in today's IT Supplement or contact our 24hr Call Centre on 0345 080011, if in Europe fax: +44 (0)1527 496230.
Alternatively visit http://www.jbaintl.com

Sponsored by JBA and IBM

6

Adobe Acrobat

Adobe® Acrobat® is the smartest way to distribute electronic documents, across any platform to any destination:

- Convert files from any application, and even scanned documents, into Adobe's Portable Document Format (PDF)
- Distribute them via email, CD-ROM and your Intranet, and even publish them on the World Wide Web
- See them appear as perfect reproductions with Acrobat Reader™ – available FREE at www.adobe.com

If you can dream it, you can do it.

www.adobe.com

7, 8, 12, 13

http://www.uk.oracle.com/europe/UK/

DO YOU HAVE

Insight

Data Warehousing is the key to surviving and thriving in a competitive age, when information is the gateway to insight.

The Oracle Warehouse solution allows you any access to any information from any source.

Find out more information about the Oracle Business Intelligence, please call 0800 332290.

ORACLE®

Visit us on the World Wide Web: http://www.uk.oracle.com/europe/UK/

11,16,21

ACTiX Computer Rentals

Focusing on short-term rental of IBM RS6000 systems from one week to three months throughout Europe and beyond.

Business Partner

UK	***Belgium***
5 Barmer Street, Gravesend	Boulevard Lambermontlaan
Kent, DA12 2AP	170 1030 Bruxelles-Brussels
Tel: (44) 1 474 363155	Tel: (32) 2 241 88 66
Fax: (44) 1 474 363577	Fax: (32) 2 216 68 38
Germany	***Netherlands***
Höchster Straße 98,	Hogehilweg 21,
65835 Liederbach	1101 CB Amsterdam-Zuidoost
Tel: (49) 69 3300 0446	Tel: (31) 20-430 2359
Fax: (49) 69 3300 0451	Fax: (31) 20-430 2758
France	***USA***
14 avenue du Québec,	35 Technology Parkway South
BP 544 Parc Euclid K1	Suite 170 Norcross,
91946 Courtaboeuf Cedex	Georgia 30092
Tel: (33) 01 69 29 85 00	Tel: (1) 770-613 5355
Fax: (33) 01 69 29 85 05	Fax: (1) 770-613 5356

If you want to deal with a company that offers:

- a clear strategy
- technical integrity
- product specialisation
- coherent pricing
- short lead-times
- a genuine presence in EUROPE

then please return this coupon to your nearest office.

I WOULD LIKE (please tick):
☐ an *ACTiX Computer Rentals* brochure.
☐ an *ACTiX Computer Rentals* video.
☐ an *ACTiX Computer Rentals* representative to contact me.

NAME ....
COMPANY: ....
ADDRESS ....
TEL .... FAX ....

14-15

sophisticated, stylish MODEL seeks IT DIRECTOR for long running RELATIONSHIP.

EIZO Monitors. A better business decision. Now reduced in price.
Tel: 01483 719500 Fax: 01483 719560 Email: ft@pds.co.uk

EIZO from professional display systems — No limits

Professional Display Systems, Genesis Business Park, Albert Drive, Woking, Surrey GU21 5RW.

---

17 - 19, 22 - 24, 27 - 29

Welcome to

The Smart Village®

From Turnkey to Tools, Solutions for Every Market

A modular set of smart card-based solutions for public and private markets, The Smart Village uses convenient transactions to boost the competitiveness of businesses and communities of all kinds. The Smart Village features smart cards, terminals, development tools and support for operators, VARs and developers worldwide.

Security that Ensures Greater Freedom

The privacy and security that new-generation smart card solutions promise operators and end users have already contributed to exploding markets on every continent. This kind of confident security is bringing new applications, and new clients, to fields as diverse as Internet shopping and the processing of healthcare forms.

Whatever your market - Telecom, Banking, Retail, Mass Transit & Parking, Healthcare, Networks - The Smart Village will make your products and services more accessible to an ever-expanding customer base.

Convenience as competitive advantage.

Smart Cards · Banking & Retail · Telecoms · Retail Petroleum Systems · Parking Systems · Mass Transit · Health Management Systems

Schlumberger Electronic Transactions

Schlumberger Electronic Transactions - 50, Avenue Jean-Jaurès - BP 620-12 - 92542 Montrouge Cedex - FRANCE
Tél.: +33 1 47 66 67 - Fax: + 33 1 47 46 63 67 - http//www.slb.com/et

---

20 **Lincoln Software Limited**

Marlborough Court, Pickford Street,
Macclesfield, Cheshire SK11 6JD
Tel: 01625 616722 Fax: 01625 616780
Email: info@ipsys.co.uk
Web: http://www.ipsys.com

Lincoln Software produce a range of Meta-CASE and CASE tools for large scale three-tier client/server application development. Our Object IE product is an object oriented, full life cycle tool which includes full C++ Code Generation and Database Generation for Oracle, Sybase and Informix. Our tools bridge the gap between business requirements and IT.

Hardware/Compatibility
Open VMS/Solaris/Sun OS/HPUX/AIX/Microsoft Windows

Geographical Coverage: Worldwide

Applications
IPSYS Toolbuilder, Object IE,
HOOD, SSADM

---

25 **Softworld Report & Directory Series**

Interactive Group, 12, Princeton Mews
London Road, Kingston KT2 6PT
Tel: 0181 541 4865 Fax: 0181 974 5188

Are you considering a new software package for your business?

Do you want to stay in tune with the business software market?

We publish a series of Reports providing both independent research into the market place, and regularly reviewed, up-to-date information on a large number of business software suppliers. The publications are available covering the following application areas:

Accounting & Finance, Accounting & Management Executive Information Systems, Sales & Marketing, Human Resources & Payroll, Supply Chain Management Systems, Local Government Applications, Software Development Tools and Database (DBMS) Technology

Order now to take advantage of our special offer price of £65 (RRP £95) Call 0181 541 4865.

softworld

---

26 **Protegrity**

■ Security Management System
■ Data Protection ■ Internet Security
■ PC Security ■ Data Mining
■ Management Control

Protegrity is an advanced Security Management System which operates across all Applications and Platforms, providing full database protection at a data item level. Protegrity gives full Management Control over authentication, encryption and data access. It provides a comprehensive auditing function of all security parameters. Protegrity supports all major authentication and encryption standards.

Visit us on http:\\www.protegrity.com

PROTEGRITY
PROTECTION AND INTEGRITY

30

WALL DATA®

Wall Data® is a market leader in the development, marketing and support of connectivity and application software.
The product range, including RUMBA® and ARPEGGIO® software and ONESTEP® service, provides business users with the ability to access data or applications and publish information from anywhere in the corporate enterprise or Internet.

RUMBA · ONESTEP · ARPEGGIO

For information: Tel: 0181-476 5000 or www.walldata.com.

---

31 - 32

Corporate Defence Solutions from

MIS Europe provides complete computer security consultancy services, together with the most advanced range of hardware, software and physical security products.

Our Consultancy Division advises on compliance with the Data Protection Act, Encryption Laws, Internet security, global network security and disaster recovery strategy.

Services include security audits, computer fraud investigation, virus removal, development of bespoke security software, training and seminars.

Our product range covers all aspects of computer security and has been selected according to the most advanced technology available worldwide. For complete corporate defence solutions....look no further.

MIS

MIS House, Hermitage Lane,
Maidstone, Kent ME16 9NT
Tel: +44 (0)1622 723400
Fax: +44 (0)1622 728580

A subsidiary of MIS Group PLC

---

33 **Baan UK Limited**

Deanway Technology Centre, Wilmslow Road,
Handforth, Cheshire SK9 3EY
Tel: 01625 523550 Fax: 01625 523303
E-Mail: sales@baan.co.uk

Baan Company is a leading provider of enterprise-wide business software applications and consulting services. Companies in the hybrid manufacturing, as well as automotive, electronics, project and process industries use its products to streamline processes across the enterprise, as well as external processes across the supply chain. Baan IV, comprising Baan Applications, Baan Tools and Orgware extends the traditional ERP model to a new paradigm called Dynamic Enterprise Modelling (DEM). DEM provides the framework to rapidly adapt software to changing organisational structures, business practices and operational procedures. Baan IV supports the entire spectrum of an organisations processes including sales forecasting, inventory control, procurement, distribution, finance, service & maintenance and project management.

Hardware/Compatibility
Unix, Window NT, HP, IBM, SUN, Digital and other open systems products. Database support: Oracle, Informix, Sybase, Microsoft SQL Server

Geographical Coverage
International

BaaN IV

FT-IT DIRECTORY INDEX

Page 8

For further information regarding advertising please call Caspar Ingham or Simon Whiten on Tel: +44 (0) 171 573 6000

FT-IT DIRECTORY

http://www.ittnss.com

ITT Cannon
NETWORK SYSTEMS & SERVICES

high speed networking without high risk

1-2 SANDERSON

Tel: 0114 282 7777
Fax: 0114 282 1340
E-Mail: SeanH@Sanderson-cbt.co.uk

For Premier Computer Solutions

Sanderson is the UK's premier open systems supplier of computer solutions and related technology and networking services with 15 offices in the United Kingdom and operations in Australia, USA, New Zealand and East Asia. Sanderson has developed and owns an extensive portfolio of software packages for a wide range of industries and applications including:

Manufacturing	Local Government	Logistics and Distribution
Processing Industry	Schools & Colleges	Hotels
Direct Marketing & Mail Order	Fleet Management	Solicitors
Finance and Distribution	Airports	Production Monitoring
Printing Industry	Financial Management	Insurance
Media Industry	Healthcare	Police & Security
Credit Management & Collections	Multimedia & CBT Training	Document Image Processing

Geographical Coverage: International

SANDERSON

3

Orion House, Orion Way, Kettering,
Northants, NN15 6PE
Tel: 01536 495000 Fax: 01536 495091
Website: http://www.pegasus.co.uk

Pegasus is one of the leading suppliers of accounting and business software in the UK. **Pegasus Opera** integrates the finance function with management information. Add integrated Contact Management via **Pegasus Connection;** Manufacturing from **Pegasus Operations;** Electronic Commerce with **Pegasus Edition;** Retail Solution from **Pegasus PayPoint** for a **total business solution.** For small and growing business we have our Windows based **Capital Family of products.**

Hardware/Compatibility
DOS, Windows or Networking solutions

PEGASUS Business Software

4-5 FREE INTERNET SECURITY SURVEY

Securing the corporate network is the IT challenge of the decade. Recent research shows that more than 70% of the worlds organisations connected to the internet are not taking precautions against unauthorised access to their networks. The percentage of organisations leaving systems open to internal abuse is expected to be even higher.

Check Point is the marketshare leader in internet/intranet security. Our Firewall - 1 software protects 44% of the worlds secure internet sites.

If you are interested in securing your entire enterprise, without disrupting business performance, call us now for a free copy of the IDC Roadmap to Internet Security.

CHECK POINT Software Technologies Ltd

CHECK POINT SOFTWARE TECHNOLOGIES LTD
St Johns Innovation Centre
Cowley Rd Cambridge, CB4 4WS
Tel: 01223 421338
Fax: 01223 421391
www.checkpoint.com

6

20 Blakesley Avenue, Ealing.
London W5 2DW
Tel & Fax: 0181 810 9776
Mobile: 0973 857624
YM75@Dial.pipex.com

Company Description
"Dongle" Ha! Ha! Ha!
"Gender Changer" Hee! Hee! Hee!
"Hard Drive" Haa! Haa! Hee! Hee!
"Internet" ?
Not everything about technology has to be quite so serious, so for a friendly approach to internet and general messaging solutions give us a call.

Hardware/Compatibility
PC Based Systems

Applications
MSMAIL
EXCHANGE

7-8

Elstree House, Elstree Way, Borehamwood, Herts WD6 1SD
Tel: 0181 207 4141 Fax: 0181 207 2444
e-mail: Sales@navision.co.uk

Company Description
Navision Software is the corporation behind the client/server-based accounting and business management solution Navision Financials. Navision Financials was awarded best "New Entrant" at the BASDA Business Software Awards of '96, and is fully Microsoft compliant having the Microsoft® BackOffice™ accreditation. The decisions you make for your company today reach far into the future - that is why Navision *Financials is Year 2000 compliant, has integrated internet functionality and is able to* deal with international multi currency.

Operating Systems: UNIX, OS/2, Windows 3.1x, Windows NT, Windows 95

Coverage: *More than 25,000 companies world-wide have* chosen a solution from Navision Software

NAVISION® software

9-10 VEGA Innovative Defence IT Solutions

VEGA Group PLC is an independent systems engineering company committed to providing innovative technological solutions to customer needs. Founded in 1978, VEGA is a major player in the space systems market, and has now established itself as a leading provider of Defence related software products and consultancy services:

Training Solutions
- VEGA offer turn-key training solutions or any of the following services, according to the specific need of a particular training requirement:
- Instructor lead tuition - using Computer Aided Instruction
- Student self-paced learning - using CBT
- Problem oriented practise - using Equipment Emulation
- Training Needs Analysis

Communications & Information Systems (CIS)
- VEGA provide software solutions or wide ranging consultancy and technical support in the following military CIS environments:
- Real-time simulation and modelling of CIS using our in-house RESPONS technology
- Command and Control Information Systems
- Satellite communications systems and simulation based planning tools
- X.400 messaging and X.500 directory services

11

Hattori House, Vanwall Business Park
Maidenhead, Berkshire, SL6 4UB
Tel: 01628 415415 Fax: 01628 415400
Email: info@datacell.co.uk.
URL: http://www.datacell.co.uk/datacell

SO YOU THINK YOU'VE GOT AN IMAGE PROBLEM?

Data Cell are leaders in the provision of imaging solutions. We may not have all the answers but we understand all the questions, and our products and services have provided the solution to problems in Industry, Medicine, Universities and Defence for the past 8 years.

DATACELL *It's all about Vision*

12

The Priory, High Street.
Ware, Herts SG12 9AL
Tel: 01920 484747 Fax: 01920 484746

IBM Mainframe & Windows NT Training

With the resurgence in the use of IBM Mainframe computers and the rapid uptake of Windows NT on the *LAN and at the desktop, so the need for professional* and highly focused training becomes increasingly important.

FastPath International have recognised this need and are offering a range of courses designed and developed, following many years of "hands on" experience, that will ensure your staff make the best use of your resources, guaranteeing a first class service to your customers.

For full details on how the FastPath International range of training courses will keep your business at the forefront please call Nicola Morgan on 01920 484747

Geographical Coverage:
Worldwide

FastPath INTERNATIONAL

---

13 Lloyd McKenzie & Partners

105 High Street, Rickmansworth,
Herts WD3 1AN
Tel: +44 (0) 1923 773258
Fax: +44 (0) 1923 897292
e-mail: chrissy.young@impint.com
web: www.impint.com

Lloyd McKenzie is a Lotus Premium Partner, specialising in Lotus Notes, Domino, cc:Mail and their related products. Proven skills in Internet connectivity, infrastructure design and systems management support a consulting service which can provide rapid system deployment and e-mail functionality.

Lloyd McKenzie are accredited trainers for all Lotus communications products.

Geographical Coverage
International

Premium Partner

LLOYD McKENZIE

14

Ascot House, Finchampstead Road,
Wokingham, Berks, RG40 2NW
Tel: 01734 773180 Fax: 01734 773293

STC announces Singleview ESL, a Windows-based GUI enabling single password and logon to multiple hosts and applications. Features include password aging, graceful logout and cut and paste between applications, increased security and control of your enterprise systems.

Hardware/Compatibility PC (NT, '95, 3.11) - Client
SQL Server - Server

Geographical Coverage
Europe, Middle East, Africa

Applications
Enterprise Networks

Cost
Volume Dependent

STC

---

15 20 25 30

Cleeve Road
Leatherhead
Surrey KT22 7SA
Tel: 01372 367007 Fax: 01372 367099
e-mail: info@era.co.uk http://www.era.co.uk

IT Consultancy, Testing & R&D

- Save millions of pounds *downstream* by modelling complex IT systems before purchase
- Prove multimedia communications systems with verification, validation and test, including full safety assessment
- Data mining will ensure best data for the job.
- *Transmit* video, voice and data over GSM
- *Provide clearer understanding* with video compression
- *Real time video, voice and data* with hand held digital multimedia communicator
- Space and terrestrial communications
- Mobile and personal communications
- Stealth
- Security, surveillance and tagging systems
- Neural network technology
- IT training
- Power systems analysis software (ERACS)

Geographic coverage:
Worldwide

EXPERIENCED PRIME CONTRACTOR, COLLABORATOR AND SUBCONTRACTOR

ERA TECHNOLOGY

16

Crosby House, Meadowbank, Furlong Road,
Bourne End, Bucks SL8 5AJ
Tel: 01628 850850 Fax: 01628 850243
http: www.infinium.com.

Infinium Software offers a comprehensive suite of business systems, which take into account the requirements of complex national and multinational organisations. Using client/server and object oriented technologies to provide *easy-to-use applications, and full* integration with popular PC packages.

Infinium Software has over 1400 clients world-wide covering all business sectors and is today, one of the leading providers in its field.

Hardware Server - IBM AS/400, Microsoft Windows NT Client - OS/2, Microsoft Windows NT & 95

Geographical Coverage UK, Mainland Europe, USA, Australia, Asia, South Africa

Applications Financial Management, Materials Management, Human Resources, Process Manufacturing

Cost Entry price level - £25,000

17

'Enterprise' is the first true 32-bit Client Server accounting system for Win95/NT, which also has an optional DOS interface, both of which have full multi-currency, open period, powerful drill-down and drill-across features.

Contact: Exchequer Software Ltd

Tel: 01202 298008 Fax: 01202 298001

18

The Gate House, Gatehouse Way,
Aylesbury, Bucks, HP19 3DL, UK
Tel: 01296 432951 Fax: 01296 398964

Profile: Walker International supply financial and procurement applications on Mainframe, UNIX and NT client server platforms.

Aptos: An integrated suite of client/server based financial applications for medium to large organisations.

Business Framework Series: A suite of Financial Consolidation, Budgeting and Planning applications that integrate financial and operational data from disparate sources to provide a flexible reporting environment.

Tamaris: High performance mainframe client/server business solutions for finance and procurement departments. Using intranet and internet technology to maximum effect, Tamaris enables the finance department to add real value to the business through a Best Practices approach towards finance.

Walker International

---

19 Geac Computers Limited

Hollywood Tower, Hollywood Lane, Cribbs Causeway, Bristol BS10 7TW.
Tel: 0117 9509003
Fax: 0117 9590718

- Integrated client/server Reconciliation and Investigations System for Cash, Securities and FX Confirmations
- 24 hours on-line availability • Workflow
- Supports agency and/or propriety data formats
- Automatically recognises match exceptions
- Creates investigations cases
- Reconciles holdings or transactions
- Comprehensive MIS

Hardware: UNIX or NT, HP, IBM RS6000, SUN, Sybase, Oracle, Ingres

Geographical Coverage
UK, Europe, Far East, Australia, North America

Applications: Geac WINNAR

Cost: Priced on a per concurrent user basis

21

Olivier House
18 Marine Parade, Brighton
East Sussex BN2 1TL
Tel: 01273 624814 Fax: 01273 624364

Rational Software Corporation develops, markets, and supports a comprehensive solution for automating the component-based development of software systems that enterprises depend on. Rational's solution includes an integrated family of products that automate software development, a software process that can be configured to the specific needs of customers, and a range of consulting and support services.

Rational's comprehensive product line includes the Rational Rose family of visual modelling tools; the SQA Suite of client/server testing tools; RequisitePro for capturing and managing software requirements; SoDA for automating software document generation; the Rational Summit family of component management and task/change management tools; and the Rational Apex family of integrated programming environments. Rational supports major implementation technologies and programming languages, including Visual Basic, Visual C++, VisualJ++ PowerBuilder, Forte, PeopleSoft's People Tools, Oracle's Designer 2000, Ada, C++, and Java. Rational's products are available individually or as part of integrated, multiproduct suites. For more information on Rational's products and services, visit Rational's Web site www.rational.com.

RATIONAL SOFTWARE CORPORATION

22

3Com UK Ltd, Pacific House, Third Avenue
Globe Park, Marlow SL7 1YL
Tel: 01628 897 000
Fax: 01628 897 003

3Com Corporation has helped over 25 million *people gain access to critical information through* high speed networks. At the heart of the company's vision is global computer networking, linking large businesses, small offices and homes through its industry-leading Asynchronous Transfer Mode (ATM) and switching products. 3Com's customers include Scottish Power, which has just installed the largest ATM network in the UK, Microsoft and educational institutions including Oxford and Dublin Universities.

Geographical Coverage:
Worldwide

Applications:
All sectors

3Com

23

Dean Clough Industrial Park
Halifax HX3 5AX
Tel: 01422 383071 Fax: 01422 383072
Email: marketing@quatrix.co.uk

Quatrix Communications are a nationwide independent networking solutions provider. From consultancy to installation, maintenance & support, Quatrix have a proven track record in delivering solutions for your business needs. To find out what we can do for you, call or email the address above or visit our website at http://www.quatrix.co.uk

Hardware/Compatibility
3Com Advanced Solutions Partner, IBM NETeam Partner, Nordx/CDT CSV, KRONE Approved Installer.

Geographical Coverage
Mainland UK

---

24 Microtest Europe

2A Kingfisher House, Northwood Park
Gatwick Road, Crawley, RH10 2XN
Tel: 01293 894000 Fax: 01293 894008
WEB: http://www.microtest.com

Microtest Inc. is a worldwide manufacturer of cable testing (PentaScanner, MICROSCANNER) network diagnostic (COMPAS) and CD-ROM sharing products. High performance CD-ROM sharing is achieved with Microtest's DiscPort mini server, network ready towers and DP Executive Server technology. These products enable users to simultaneously access networked CD-Changers and Jukeboxes. Support is provided for multiple client *platforms and WINDOWS* NT and NetWare operating systems.

Geographical Coverage:
Worldwide

MICROTEST®

26

Farnborough Aerospace Centre
PO Box 87, Farnborough, Hants GU14 6YU
Tel: 01252 382020
Fax: 01252 382380

Company Description
Superb communications unite the proven software skills of the Indian sub-continent with the project *management* expertise of British Aerospace to enable BAeHAL, an ISO 9001 software services provider, to deliver high quality, cost effective solutions to British industry.

Hardware
Client Server, Mainframe and PCs.

Geographical Coverage
Europe, US and Pacific Rim.

Cost
Up to 50% less than UK rates.

27

The Hertfordshire Business Centre
Alexander Road, London Colney, Herts AL2 1JG
Tel: 01727 822639
Fax: 01727 825688

The Year 2000 presents *real* problems for many business critical systems and processes. As one of the few companies with practical experience of the issues involved, we know that the *business management of the problem is at least as important* as solving the technical issues involved. Plato Millennium's proven methodology can add significant value to Year 2000 projects, delivering lasting value into the next century. Whether your Year 2000 project is at the recognition stage or further developed, Plato Millennium can ensure that you deliver to specification, within budget and of course - on *time.*

Geographical Coverage
UK

PLATO

28-29

Wipro Systems is a leader in offshore development with specialisation in providing Millennium (Year-2000) solutions internationally.

For Millennium services, we have a well defined methodology backed by our own tool (DA-TE-2000) as well as knowledge of other relevant tools and solutions.

With Wipro, you get:

1. Track Record of Millennium Services
2. Proven offshore project management skills
3. Access to over 2000 software engineers

Wipro Systems is backed by UKP 350 million Wipro Corporation, and provides software services on a wide range of platforms and technologies.

For full details please contact:
Rajeev V.S., rajeev@wipsys.co.uk.
Ph: 44-171-222-8866 or fax: 44-171-976-0336 in UK
Please visit us at Comdex '97 Stand no. 531

WIPRO SYSTEMS

31-32

Informed. Interactive. Unique. FT.Com is the premier site for international business news, comment and analysis.

Internet users can now link directly with a whole range of IT specialists listed on FT.com's online directory of web addresses - FTID. Housed within FT.com's Connect & Respond section, our directory presents a useful forum for IT players to communicate with business people the world over.

For more information or to advertise either in the FTIT Directory or on line with FTID call Lucinda Roberts on 0171 573 6000.

FT .com http://www.FT.com

FT-IT DIRECTORY INDEX

For further information regarding advertising please call Caspar Ingham or Simon Whiten on Tel: +44 (0) 171 573 6000

COLLABORATION IN THE WORKPLACE • By Rod Newing

Groupware is dead, long live the intranet

The vital concept of better communications in business is *gaining new impetus from intranets*, or private networks

As a class of software, groupware is not only dead, it should never have existed. It has effectively merged with the intranet, although the intranet world has not realised it yet.

Groupware should never have existed as a separate category of software, because all software should enable people to work together.

When Doug Englebart invented the personal computer at Stanford Research Institute in the 1960s, "he designed it to allow people to work together and share information across a network through a mainframe computer," says Professor Clive Holtham, Bull Information Systems' professor of information systems at London's City University Business School – "however, IBM launched a PC and this set the industry back 20 years," he claims.

Users, frustrated at their *inability to get what they* wanted from inflexible mainframe systems, used their PCs in stand-alone mode, utilising personal productivity tools, which never actually delivered measurable productivity gains.

Once networks had been developed, the term 'groupware' to describe software designed to let users work together and share information through computers, had to be invented to distinguish it from the damaging concept of stand-alone computing.

"In the absence of a network-centric PC, groupware had to be invented," says Prof Holtham.

Groupware technology has been widely used to enable people to communicate, to *share information*, to gather information, to work together and, most importantly, to carry out business processes and execute transactions, often using unstructured data.

All of this was done, not just between people in a group, *but between groups* and enterprises.

In the process, a number of cultural issues were identified which had to be addressed before any benefits could accrue. Now that the corporate intranet has arrived, the IT vendors have implemented the new technology internally very much in the way that groupware was deployed and for the same purposes.

However, now that it is spreading like wildfire through the corporate world, it is getting hijacked by both users and employee communications professionals. They are turning it into a publishing medium, ignoring the *more powerful uses of an* intranet, which require a knowledgeable and innovative central group to co-ordinate and promote it.

Interestingly, these new enthusiasts are not aware that they are using groupware principles, yet they are *identifying all the familiar* cultural problems as if for the first time.

"People don't understand the power and the benefits of the intranet," says Mr Jack Mark, managing director of Unipower Systems, a consultancy specialising in groupware and intranet applications, *(http://www.unipower.co.uk)*.

"The same problem arises as with groupware, in that everybody is doing their own thing because it is so easy to develop. The power only begins to be felt when it is properly launched enterprise-wide, *whether it is* groupware or the intranet."

Lotus effectively defined the groupware market with their Lotus Notes software, which created an entire Notes industry. Lotus has completely rewritten it to utilise Internet standards *and, in a controversial marketing* move, renamed it Domino.

The name Notes now refers to the traditional proprietary client. Lotus was quickly able to claim, quite justifiably, that Domino is the best solution for intranets. All the other groupware products, such as Novell's Groupwise, ICL's TeamWare, Microsoft Excange and Staffware have also adopted Internet standards.

New competition has come from intranet-based Oracle InterOffice Suite and Netscape, which had already purchased the Collabra groupware product and has built *Internet standards into* it.

"Our experience is that corporate users prefer integrated solutions that work, rather than assembling 15 different tools from public domain sites," says Professor Holtham.

"To date, it has proved easier for traditional groupware suppliers to migrate to intranet rather than new intranet suppliers to learn how groups work."

The current fashion for the intranet "is yet another 'drains up' exercise which rips out the underlying foundation, but in no way alters the principle of efficiency through information sharing," says Mr Mel Earp, technical director at Sema, the computer services group.

"The strong groupware engines will survive through the turmoil and will be stronger as a result of an improved foundation. The weak groupware engines will die and be replaced by new entrants who will attempt to redefine the concept, but *will probably fail to do so*, because changing the technology does not change the principles."

One of the reasons why Lotus Notes was able to dominate the old groupware market was its unique embedded flat file database *which could handle* unstructured data.

Now the "universal server" object-relational databases are becoming available, these should be used as a data store in intranet applications, including Domino. There is only rudimentary groupware available on the external Internet, *but Oracle has plans* with its InterOffice product and is working with telecommunications companies to make it available to communities.

"Once we get electronic mail and billing implemented, we'll look at shared *folders and conferencing for* clubs and societies," says Richard Grogan-Crane, groupware marketing manager for Europe, Africa and the *Middle East* at Oracle.

The established workflow vendors, with their focus on business processes and *transaction processing*, are well-positioned to benefit from the intranet.

Sparbanken Sverige AB, one of the top three banks in Sweden, is in the process of giving its 11,500 staff intranet access to Staffware *(http://www.staffware.com)* applications using Java clients.

"Competitive advantage comes from the quality of the collaboration between an organisation and its customers and suppliers, not the act of collaboration itself," says Jeremy Renwick, UK marketing manager for ICL's TeamWare Group.

"The winner will not be the company that delivers better technology, but the one that helps organisations to improve their business processes."

Mr Earp agrees: "The IT industry will one day mature to focus on the real issue, which is delivering benefit to users, rather than continually focussing on internal matters, such as which 'protocol stack' to use."

Embracing the intranet is the best thing to have happened to groupware. It has *given the vital concept of* working together a new impetus. At the same time, Intranet developers can learn from a very large established body of knowledge on the use of groupware, especially how to change culture in order to get better business processes and generate competitive advantage.

The UK government has just completed a three-year study into collaborative working for competitive advantage. Seven groups of academics, consultants and business people evaluated more than 400 software tools. Garth Shepherd co-ordinated the programme and has concluded: "It isn't technology, but business purpose, which brings competitive advantage."

Professor Holtham: 'Groupware had to be invented'

FT IT

Software at work

INTRANET BENEFITS • By George Black

The promise of high returns

Despite managers' scepticism about new IT systems, intranets can deliver rapid cost-savings

Intranets, or private Internets, could deliver a spectacularly high return on a fairly small investment in a very short time.

This is the message which the computer industry is now trying to get over to its corporate customers. They are understandably sceptical, having heard such promises from information technology managers many times over the past 30 years and usually been disappointed.

This time, however, there are some reasons for thinking that the promises could be fulfilled.

Experts are divided on the issue. Gartner Group warns that the majority of intranet projects are likely to fail to meet the business case on which they are based.

It urges users to be cautious and test the water before they plunge in, starting with small projects to augment rather than replace existing systems. The best case for intranets rests on the value of simple Web publishing, it says.

However, a more bullish survey by Romtec and Durlacher has found that some companies are getting 1,000 *per cent returns on their* investments. International Data Corporation (IDC) found even higher returns in its analysis of intranets built on Netscape software, with a payback in six to 12 weeks.

Ms Kay Wesley, an intranet specialist at financial systems vendor Hyperion Software, says Gartner is too timid: "Intranet systems can be established more cheaply and easily than Gartner says and can deliver benefit in a few weeks," she says.

For companies which already have networks, most of the cost of an intranet is in staff time to set up the system. That can often be quite a small cost as intranet projects are not typically labour-intensive.

But the benefits can be very large, as some UK users are starting to find out. Some leading companies say they are saving several hundred million pounds even in the first year of intranet usage. A substantial part *of this saving is said to come from* the elimination of storage, printing and distribution of documents which are made available to staff online.

Another benefit is that documents which are online are much more widely used than those which are kept on shelves, so there are improvements in productivity and efficiency as well as cost savings.

London Underground says it will get a return on its intranet investment – up to now only £70,000 – *in just a few months*. Two regular publications giving instructions to staff which cost around £500,000 a year to publish are soon to be cut out.

"Management still cannot believe that the intranet will deliver what we promised," says Mr Alec Bruty, the consultant who is running the programme. "The only way to convince them is just to do it — because they don't believe IT can ever deliver."

The number of users of the London Underground intranet is likely to increase from 1,000 to 4,500 within a few months. The return on investment should start to flow as the volume of publications is reduced.

Mr Bruty plans to add many other large documents such as the company *information handbook*, the group finance manual, the incident management system and the IT handbook. Not only will much more information become available to staff more easily but it should also be more up-to-date.

Users will have access to these documents, stored in HTML (Hypertext Mark-up Language), through Microsoft's Internet

Continued on facing page

BUSINESS APPLICATIONS

Why intranets are catching on

Intranets will be a $50bn market worldwide by the end of 2000

One of the biggest users of intranets is the Swiss Bank Corporation. In fact it has so many – around a 100 – that it has just appointed a head of intranets to co-ordinate them all.

Intranets take advantage of low-cost Internet technology such as Web browsers – software for searching the Internet and viewing information – to improve internal communications.

Sometimes intranet sites are linked using the public Internet network. But the information on them can still be restricted to company employees. Sometimes sites are linked using a company's own data network.

At Swiss Bank Corporation, owner of SBC Warburg, intranets are used for:

☐ Corporate accounting and credit information.

☐ Publishing research internally, and to a select group of 50 external clients.

☐ Trading information.

☐ Ordering information technology equipment.

☐ IT project management.

☐ Informing staff of regulatory changes.

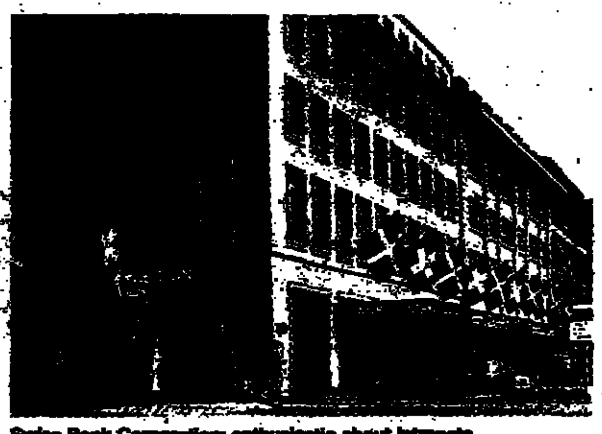
The job of Marie Adee, the company's new head of intranets, is to unify the disparate sites so that employees can find information easily. The sites will also be given a common look and feel. All the company's sites can be searched using the Netscape Navigator Web browser, but the company is also standardising on Lotus Domino software.

This software will sit on the server computers that store the intranet information. Domino incorporates Lotus Notes information-sharing software. So employees will be able to input information to Web sites either through Notes or through their Web browsers.

It will also be possible for SBC to set up workflow applications – which control the flow of work between users in a team.

According to Mark Robertson, managing director of Blue Curve, an Internet consultancy working with SBC on the project: "SBC is using intranets because they offer a very low-cost architecture for information sharing and increase the timeliness of information.

"Previously, credit policy information was going out-of-date as soon as it hit the user's desk," he says.



Swiss Bank Corporation: enthusiastic about intranets

There are also savings to be made from intranets. Robertson says that it is cheaper to make information available via an Intranet than it is to print it.

Airline network Sita's intranet is also saving money for users in the aviation industry. Airlines and aerospace companies can cut costs by replacing international leased lines with a single connection to Sita's AeroNet Intranet. This can be accessed from 500 cities in 100 countries.

The 30 or so airlines and aerospace companies belonging to it – including British Airways, KLM, Boeing, Pratt & Whitney and Rolls Royce – can use it to access digitised information from manufacturers. This is faster and cheaper than getting the same information on paper or microfilm.

For example, British Airways uses AeroNet to get aircraft engineering drawings, manuals and so on, direct from a Boeing database in Seattle.

Manufacturers of airframes or engines can also save time and money by exchanging large computer-aided design/computer-aided manufacturing files with a range of suppliers over the aviation community Intranet.

Setting up a Web site for intranet use is not expensive. Norwich Union's Microsoft-based intranet solution includes a lot of free software and has not required a dedicated project team.

Digital Equipment sells a self-build Web server package (also available from its Intranet partner BT), including an Intel or Alpha-based computer, a *Digital Altavista* firewall (to keep out hackers), some consultancy and some Microsoft software at a starting price of £8,000.

This will enable a company to build a Web site that can be accessed by an unlimited number of employees. A second package including the same ingredients but extra security starts at £10,000.

However, the real price of an intranet is in the running costs: the time it takes to keep information up to date and to manage the network.

Roger Whitehead, director of the Office Futures consultancy, says: "As more and more people begin to use an Intranet, it can become ungovernable. Users don't know what's on there or how to find it. So they either narrow their focus, or give up.

"One of the first tasks facing any company is to decide who can put information on the intranet, who guarantees its quality, and how it should be organised," says Whitehead.

When faced with this problem, US workstation company Silicon Graphics created the Silicon Junction Web site, that is the central point of its intranet. So users always know that they can go there to get a list of all the company's other sites.

"Their approach is 'to let a 1,000 flowers bloom', but organise the intranet so that you can find the different species," says Whitehead.

"Another way of simplifying the management of an intranetis to put Lotus Notes at the back of it, and it will organise all the information and the links to different applications," he says. "Setting up a simple intranet is cheap and easy, but once you get to a certain size, the cheapness argument is less forceful."

New business advantages emerge

Continued from facing page

Explorer browser software.

Intranets, if they work, certainly seem to change the timescale for return on investment dramatically, typically from four or five years for previous generations of IT to a year or two at most.

Many of the benefits will be "soft", or less-easily quantified. For example, easier access to corporate information systems should open the way to much more flexible working patterns.

Being in the office will no longer be necessary for many purposes. Office space can therefore be saved by sharing desks and the amount of travelling time can be reduced.

Another soft benefit is staff morale. Keeping staff informed can contribute a lot to team spirit. If staff hear a rumour of a management decision affecting their future, which is confirmed several days later by a typed memo, they may be demotivated.

An intranet message from *the chief executive's office* could reach them only a few minutes after the decision is taken.

Intranet systems vendors are now starting to focus on such aspects of corporate culture in an effort to persuade doubtful managers of the many potential advantages of the technology.

If intranets do, ironically, turn out to deliver very cheaply the benefits which all the billions invested in IT for 30 years have failed to give, then the implications for international competitiveness will be serious.

Meanwhile, Mr Andy Grove, chief executive of *Intel*, and Mr Richard Thoman, chief finance officer of IBM, have both said that Europe may be damaged by lagging behind the US in its adoption of new technology.

European companies are not adopting e-mail and Internet technology fast enough, they argue. The Romtec-Durlacher study *provides evidence to support* their case. Only 13 per cent of the top 1,000 UK companies have so far installed intranets, against 63 per cent of large US companies, it found. The reason was that UK managements did not see the potential benefits of the technology.

Other studies also suggest that top managers in the UK are neither IT users nor IT enthusiasts. The UK therefore seems to need 'an army of Mr Brutys' to work on their managers and show them practical achievements which will persuade them to change their attitudes.

JAVA COMPUTER LANGUAGE By George Black

Wide-scale adoption has a long way to go

The potential of Java is impressive, but its strengths remain to be proven in practice

Java is the language of the future but not of the present, according to a worldwide survey of intranet developments by the Xephon consultancy.

The survey found little evidence that users were adopting Java, the object-oriented programming language promoted by Sun Microsystems, for developing corporate systems running on their private Internets.

The language, which was launched by Sun in May 1995, has in the past couple of years generated a volume of publicity unprecedented for any new computer language.

It seemed to industry insiders to be capable of turning the Internet from a clever toy into a serious computing system for business.

It was acclaimed as the answer to systems designers' prayers, offering re-usability and portability of code to an extent never achieved before – a big step beyond the extremely successful C++ language, from which it derives.

It would allow users to have cut-down personal computers ('network computers' or 'thin clients') on their desks, on to which they could download applications from an Internet or intranet server whenever they were needed.

Software could be updated by downloading through a browser tool only the parts of the application which had changed since the last delivery, in the form of 'applets' – little applications, software modules, or components. Distribution of software would thereby be revolutionised.

This approach if *successful could force many* software companies to re-think their product strategies radically. It could threaten Microsoft's dominance of the operating system market, since it would make the browser the most important element of the desktop system.

Microsoft plays down its importance. Its Internet tools product manager Mr Mike Pryke-Smith says: "Java is a useful language, but we don't see it as the only one for intranets."

Java is also a big challenge to applications developers, especially developers of groupware and workflow systems

> Most of the enthusiasm has come from suppliers

which could be threatened by intranets running Java applets. Many of them are now scurrying to re-design their products using Java. The potential of Java is impressive, but its strengths remain to be proven in practice. How important a force in IT it will become is still hard to predict.

Most of the wave of enthusiasm for the language has so far come from the supply side, as the leading supplier companies rush to show that they are abreast of the latest technology.

Leading tools developers, such as Netscape and Lotus Development, have been keen to emphasise their commitment to using the language. Netscape plans to give away Java applications in an attempt to create a new market in the same way as it did for browsers.

"There is no question that Java is an important breakthrough," says Mr Eric Broussard, Netscape's marketing manager for Europe, "but it will take time for a lot of companies to adopt it."

Lotus has retrained hundreds of its staff to be able to cope with Java and plans to recruit more. Its parent company IBM is spending several hundred million dollars on Java development.

But although users say they favour Java over all other options for intranet development, few of them seem to have taken the idea very far. Some analysts had forecast widespread adoption of Java during 1997, but they may be wrong.

Many users appear to be doubtful about whether it is yet mature enough to tackle important new corporate systems.

"Our survey suggests that use of the intranet for Java application is still some way off," says Xephon's research director Mr Mark Lillycrop. "There is not much of this kind going on."

The immaturity of Java tools and the scarcity of expertise in designing and developing applications in the language are holding up its progress with users despite a lot of interest in it, he says.

Creating an intranet is not a particularly hard job, but exploiting it to the full is a much bigger challenge. At present, intranets are generally being used for much less ambitious projects than Java applications could deliver.

The typical use of current intranets is for distributing information across a company, extending the existing email and groupware systems, the Xephon survey found.

Turn to back page

Customer-service is crucial

The first step in unlocking the value of information technology is to listen and understand what the client really wants, says James Unruh, who also sees the growth of the Internet as 'a huge services opportunity'

Unruh: 'Competition in world markets is bringing the subject of information management right squarely to the centre'

Since he took over in 1990 as chairman and chief executive of Unisys, James Unruh has overseen the transformation of his company from a traditional mainframe supplier into what he calls 'an information management company.'

"Our objective is to work with clients to help them create competitive advantage through better management of information in their organisation," says Unruh, who was senior vice president for finance at Burroughs in 1986 when his group merged with Sperry to form Unisys.

Unruh argues this objective is necessary because two of the props which traditionally helped businesses build sustainable competitive advantage are no longer sufficient. "Since the industrial revolution we have based competitive differentiation on product and, in more recent times, on quality," he says.

"But in most industries, product life-cycles are so short that you really cannot have a sustainable competitive differentiation on that basis."

At the same time, he argues that in order to compete with Japanese manufacturers, both US and European companies have had to raise their levels of quality, "to the point where quality as a differentiator becomes more of a question what happens if you don't have it."

Instead, he argues that companies need to focus on customer-service and creating value for their customers. "As I look at it, that brings the subject of information management right squarely to the centre," he says.

The Unisys chief executive argues that the first step towards creating value for a client is to listen and understand what the customer wants – "most of us do not listen well to what our clients tell us". For example, he says companies often fail to recognise how valuable complaints are: "We think of them as irritations, something we have to deal with."

However, he believes the best single place to find out what customers want and what they value, is by analysing a company's own data. "Transactions disclose customers preferences, how they do business, what they do, how they buy, what they buy, and so on," he says.

Unlocking those insights through techniques such as data-mining and then making the results available to those making decisions and the people who are actually dealing with customers, "becomes a critical part of information management," says Unruh.

In terms of Unisys itself, Unruh says the company reached the conclusion that while technology itself was "a very critical thing, and no less critical than it ever was, it is no longer anything like sufficient to really work with a client and create value."

So, he says Unisys typically begins work with a client "with an involvement at the level of information planning-type consulting." The second step is systems integration work – "sometimes it is selling a standard application, sometimes it's using software from some other source, sometimes it's a custom development with a client – it all depends on the situation," says Unruh. The final step, he adds, is providing "life-cycle support services" such as traditional maintenance work, helpdesks or outsourcing services.

As Unruh notes, this is a sharp change from the group's original box-pushing business. "Five years ago we were a mainframe computer company, the business and economic essence of the company was to sell a mainframe computer and take the maintenance contract. In hindsight, it sounds like a fairly simple business."

Beginning in 1992, he says, "we began to create a different company, not abandoning our technology business, but to go well beyond it." Unisys completed the restructuring process at the beginning of 1996, adopting what Unruh describes as "the 'three businesses-one company' structure".

"Going back to the beginning of the process, there was never any doubt in my mind that I was going to move us to a business-based organisational structure, rather than a function-based organisational structure," he says. "But it took time to develop the businesses to the point where one could really *do* that."

He says the restructuring helped accelerate the transformation of the group, "because underneath the covers of whatever gross revenues we have, we are building 'a new automobile'. The old traditional [mainframe] business is declining and will continue to decline," he says, but nevertheless emphasises that there will be a continuing requirement for 'enterprise servers.'

"It is going to be a smaller marketplace and those enterprise servers are going to look different, they already do," he says. "It is a very good business, but you don't invest in it as if it were a growth business."

The growth opportunities that Unisys has targeted include the IT consulting and computer services businesses, including IT outsourcing. "Companies, including those in the computer industry, tended to be completely integrated vertical companies, doing all kinds of functions," says Unruh. "What is happening is that increasingly organisations are determining what their specialities are, what their core competencies are and the areas in which they add value."

Outside of these areas, operations such as building, maintaining and operating complex computer networks are being outsourced to IT specialists, such as Unisys. Unruh rejects suggestions that outsourcing will turn out to be a temporary fad, but he does accept that some outsourced business will be taken back in-house – "the trend will go to the extreme and then come back into some kind of balance," he believes.

Aside from the IT outsourcing market, Unisys is targeting several specific vertical markets for growth. "In a vertical market sense, I view the business increasingly as a grouping of segmented markets or niches that one plays in, or tries to be a dominant or leading provider," he says. Traditionally, Unisys has been strong in the financial services and government sectors. "I think there might be some debate as to which segment of financial services could exhibit the fastest growth in IT over the next few years," says Unruh. "When I look at the gap to be closed – from where they *are* to where they *need to be* – then it's the insurance sector that really has a lot to catch-up.

"But the financial services industry is in a huge transition, so there is a lot of growth and their products are all information-based products."

Similarly, in the public sector he notes that "while the money is going to be in shorter supply, the need is even greater to apply technology to try and cope with the overall cost-problem of providing services".

> 'The financial services industry is in the midst of a huge transition'

Other attractive markets include the communications industry: "The areas to go for are those in chaos," says Unruh. "And I think we are just peering over the edge into the chaotic period of the communications industry. A lot has already happened, but there is a lot to go. Deregulation is really only just beginning, so there is going to be a lot of opportunity in that industry to help them with their issues."

Along with most other companies in the IT sector, Unisys also sees the growth of the Internet and Internet technologies as "a huge services opportunity".

"The history of new technology in our industry has two strikingly consistent things about it," says Unruh. "One is that we have, almost without exception, over-estimated the impact of new technology in the near-term – and at the same time, almost without exception, under-estimated the impact of it in the long-term. I think the Internet fits squarely in this category."

SOFTWARE AT WORK

Java applets are 'some way off'

From previous page:

Mr Lillycrop also sees a potentially serious problem in developing Java applications which are both re-usable and maintainable, especially if its use is combined with that of a less pliant language such as C.

"If you put C or C++ programmers on to writing Java you may end up with code which is a hybrid and will be very hard to manage," he foresees.

Nonetheless, Mr Lillycrop along with most other analysts, thinks that Java is the language of the future and sees no alternative on the horizon for intranet development.

"It will just take time for people to re-adjust to it and gain the skills to make use of it," he says.

Re-training staff to be able to write Java programs will be a time-consuming and expensive task.

Recruitment of people with the aptitude for Java programming will be very hard in the next few years as companies compete for scarce skills to deal with the year 2000 date-change problems and the expected launch of European Economic and Monetary Union (Emu).

There are already signs that new development projects such as building intranets are being postponed while users concentrate on those more urgent tasks. Some companies are said to be freezing all new development until they are solved.

This could delay the mass exploitation of Java for the intranet for several years.

FINANCIAL TIMES
COMPANIES & MARKETS
Wednesday April 2 1997 Week 14

IN BRIEF

Monsanto agrees Calgene purchase

Monsanto, the St Louis-based chemical and life sciences company, said it had agreed with Calgene to acquire the remaining shares of the California-based biotechnology pioneer for $8 per share. Page 19

Energy Africa seeks black investors
Energy Africa, sub-Saharan Africa's only private sector oil and gas exploration company, wants to attract more black empowerment groups to its shareholder register. Page 18

NCB in wide-ranging overhaul
Nippon Credit Bank, one of Japan's top 20 banks, announced a restructuring that includes withdrawal from overseas operations and staff cuts of more than 20 per cent. Page 21

Trafficmaster extends to Germany
Trafficmaster, the traffic information provider, will today announce it is extending its system to Germany in an agreement with Mannesmann Autocom, the German telecommunications group. Page 23

Grupo Torras out of receivership
Grupo Torras, the ill-fated holding company set up in Madrid by the Kuwait Investment Office, has emerged from receivership. Page 18

Panel backs ANZ in Indian bank row
Australia and New Zealand Banking group (ANZ) said it could book a large abnormal gain after an Indian arbitration panel ruled in its favour in the company's dispute with India's National Housing Bank. Page 21

Dexia 1996 net income up 10%
Dexia, the Franco-Belgian banking group, announced net income up 10 per cent to FFr3.2bn ($569m) for 1996. Page 20

Kroll agrees to takeover by Equifax
Kroll Associates, the best-known operator in the world of corporate gumshoes, announced that it had agreed to be taken over by Equifax, an Atlanta-based credit-checking company. Page 19

Brazil's Varig reports losses of R$64m
Varig, the Brazilian airline, released headline figures showing losses of R$64m (US$60.4m) last year after losses of R$7m in 1995. Page 19

Companies in this issue

Market Statistics http://www.FT.com

Chief price changes yesterday

FRANKFURT (DM)			
Rises			
Rheinmetall Prf	254	+	12
Falls			
BMW	1285	–	65
Degussa	685.5	–	26.5
Ind Werke	390	–	16
MAN	465.5	–	13.5
Volkswagen	888	–	34
NEW YORK ($)			
Rises			
Conseco	38	+	2¼
Health Mngmt	25¼	+	2
Synovus Fin	32¼	+	3¼
Falls			
Catalina Mkt	29¼	–	11½
Ethan Allen	40⅝	–	2⅞
Patriot Amer	22⅝	–	1⅛
LONDON (Pence)			
Rises			
Mornpay	390	+	20
Nobo Group	128½	+	17
Somic	158½	+	72
Falls			
Cora Group	265	–	26
PizzaExpress	684	–	45½
Shield Dgnstc	677½	–	37½
TORONTO (C$)			
Rises			
Gen Minerals	6.35	+	1.05
Golden Rule	7.25	+	0.75
Minorca	1.85	+	0.5
Falls			
Devtek A	5.15	–	0.75
Ell Eco Logic	5.5	–	0.75
Goran Capital	29.0	–	2.5

PARIS (FFr)			
Falls			
Accor	782	–	36
Air Liquide	864	–	25
BIC	834	–	21
Chrstn Dior	829	–	31
Essilor Intl	1525	–	115
St Gobain	810	–	42
TOKYO (Yen)			
Rises			
NTN	598	+	22
Nippon Shnpn	455	+	30
Falls			
Asahi Bank	743	–	35
Central Fnce	235	–	29
Inax	790	–	22
Tokyu Land	400	–	19
HONG KONG (HK$)			
Rises			
Tsim Sha Tsui	26.5	+	1.5
Falls			
Cheung Kong	63.75	–	4.5
Dao Heng Bnk	33.0	–	2.4
HSBC Hldgs	175.0	–	5.0
Hang Seng Bk	78.25	–	3.75
Sun Hong Kai	78.5	–	3.5
BANGKOK (Baht)			
Rises			
Jalaprathan	28.25	+	2.5
Serm Suk	400.0	+	28.0
Thai Cnl Chm	24.0	+	2.0
Falls			
Charoong Thai	31.0	–	6.25
Mutual Fund	120.0	–	13.0
Thai Factory	50.0	–	5.5

New York and Toronto prices at 12.30pm.

Investors shiver in Wall Street chill

Caution has become the market's watchword after the Fed's rate increase

By Richard Waters and Lisa Bransten in New York

Like the savage snow storm that has just blown into New York on the heels of a balmy spring weekend, the sudden chill now descending over Wall Street has come as something of a surprise.

Last Tuesday's US interest rate rise – the first in more than two years – had been so well telegraphed in advance that it appeared to have passed with barely a shrug. But since then the investment barometer has swung sharply.

A bounce in share prices yesterday morning brought temporary respite. After two sessions of steep losses, investors were once again picking their way through the most damaged sectors of the stock market in search of bargains. But the mood has changed.

Mr Peter Anderson, head of equity investments at Federated Investors, a mutual fund group, was among those to display this new-found caution. While hunting yesterday for bargains among the stock market's fallen stars, such as technology and financial services companies, he confessed to a heightened awareness of risk. Companies that seem most in danger of failing to live up to earnings expectations are being weeded out of his portfolio. "We're somewhat more defensive," he said.

Such caution now holds sway. It may be too early to predict a bear market, but the sudden shift in sentiment suggests the bull market faces its toughest test for some time.

In the perverse logic of the markets, it has taken a powerful start to the year for the US economy to threaten the Wall Street's sense of well-being. After six years of economic expansion, there is simply too little slack in the system – too few workers to hire, too little unused production capacity – to keep raising output without putting pressure on costs.

Still searching for bargains among high-tech stocks but now feeling 'somewhat more defensive'
Peter Anderson of Federated Investors

The Federal Reserve's self-declared pre-emptive strike last week seemed at first glance just the thing to cool the economy's heels. But on further consideration, the markets have decided it may well take one or more moves this year to have the desired effect.

The rise in interest rates already seems to be having an impact on investors' behaviour. T Rowe Price, one of the US's biggest mutual fund groups, reports that its customers have shifted some money from equity to money market funds since late last week. There is still more cash flowing into equity funds than out, it adds – though interest has shifted from the riskier "aggressive growth" funds that drove the stock market's advance in recent months.

The threat that prices of long-dated bonds could continue their declines seems, at least for now, to be damping demand for these instruments. But short-term instruments, which carry less risk, already offer an attractive yield of nearly 6.5 per cent: should that rise above 7 per cent, it would begin to present a serious challenge to equity investment, said Mr Henry Kaufman, a Wall Street economist.

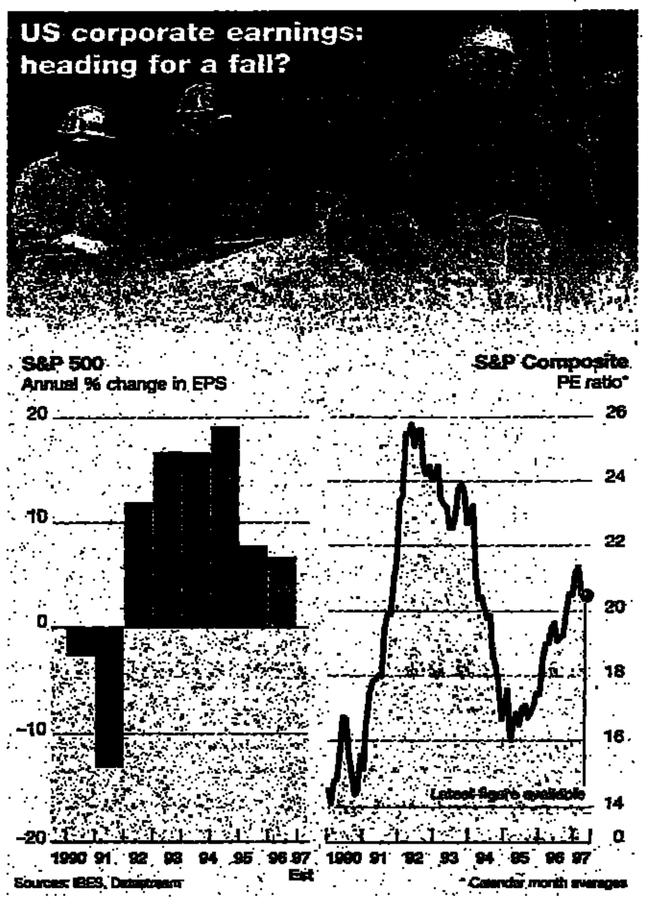
The global economic backdrop is also likely to become less supportive to the US stock market than in recent years, he adds. The economic woes of Europe and Japan have kept global interest rates low, creating a surge of liquidity: much of that money has found its way into the US Treasury bond markets, indirectly keeping borrowing costs for US companies low and putting a solid foundation under share prices. If – a big if – the global interest rate cycle is turning, Wall Street will no longer be such a powerful magnet for the world's capital.

None of this necessarily means that the long US bull market is dead. Indeed, many on Wall Street – including the bearish Mr Barton Biggs of Morgan Stanely – predict one last surge for the stock market, as the Fed succeeds in extending US expansion.

But one of the other key supports for shares, the earnings growth of US companies, looks to be weakening. And without a steady rise in profits, it will be hard for the stock market to shrug off the rise in interest rates, as it did in 1994.

US analysts and economists expect the crunch in earnings to come in two stages. First will be the squeeze on profit margins in the first half of this year, as US companies wrestle with higher labour and materials costs. The stronger dollar will dent the profits of the multinational companies which have led the 1990s bull market. Then, further ahead, the Fed's attempts to put the brakes on the economy will add to the pressure by damping consumer demand.

Earlier in the economic cycle, adjustments like these need not have had a serious long-term impact. Now, though, costs are rising, says Mr David Hale, an economist at Zurich Kemper Investments, producing "a traditional late-cycle squeeze".



The price/earnings ratio on US stocks remains at a heady level, just as corporate earnings growth looks to be running out of steam. That may not be a recipe for disaster, but it leaves corporate America with a lot to live up to in the months ahead.

Lex, Page 16; International bonds, Page 24; World stocks, Page 36; London stocks, Page 32

Bre-X dealings in second system failure

By Kenneth Gooding in London and Scott Morrison in Vancouver

The Toronto stock exchange's computer system was overwhelmed yesterday for the second time since Thursday when shares in Bre-X, the Canadian exploration company, resumed trading after a one-day halt.

More than 2m shares of the troubled Calgary-based company changed hands in the first two minutes of trading and 7.78m were traded in 22 minutes before the system crashed. Bre-X has 237m shares in issue.

Bargain hunters pushed the Bre-X price up 54 per cent, or C$1.35 to C$3.85, in early trading.

The computer system was down for nearly an hour before trading, excluding Bre-X, resumed.

Minutes before trading in Bre-X started, the company issued a brief statement indicating that a report by Kilborn SNC Lavalin on Bre-X's Busang gold prospect in Indonesia, was more complicated than had been expected.

The report was due to be published yesterday but the company said it required "a more thorough review by Bre-X's technical team than initially anticipated".

Separately, the Toronto exchange said it had started an investigation with the Ontario Securities Commission into the events that led to a collapse in the Bre-X share price. It would focus on trading patterns and disclosure issues.

Authorities would be looking for unusual share trading patterns that might indicate persons or institutions acted on information that had not yet been made public.

They would also try to determine whether Bre-X had withheld information.

"It's routine that we would do this," said a TSE official. He was unable to say how long such an investigation would last.

Meanwhile, a number of US shareholders in Bre-X have initiated legal action against the company and some of its directors.

Mr Steve Schulman at Milberg Weiss Bershad Humes & Lerach in New York said his firm had been approached by some investors. He was aware of two or three similar actions being considered by Bre-X shareholders in New York and California.

World stocks, Page 36

Jean-Louis Beffa: aiming to cut his stake in Suez

Suez approves Lyonnaise merger

Board proposes special dividend likely to total $533m

By Andrew Jack in Paris

The board of Suez, the French holding company, yesterday gave its approval for a merger with Lyonnaise des Eaux, the utilities group. It proposed the payment of a special dividend, likely to total more than FFr3bn ($533m), before the deal.

The dividend announcement removes a potential obstacle to the merger preceding a discussion by the board of Lyonnaise des Eaux today and more detailed talks between the two companies on April 11.

The announcement was made on the day Mr Jean-Louis Beffa, chairman of Saint-Gobain, the glass and building materials company which owns 6.3 per cent of Suez, said he was in favour of the merger on condition there was an exceptional dividend paid out first. He added that he intended to "significantly" reduce his stake in Suez as part of a plan to unwind the cross-shareholdings between his group and a number of other French companies, which include Banque Nationale de Paris, Axa-UAP and Générale des Eaux.

In response to pressure from investors keen to ensure they receive compensation after the poor performance of the shares over several years, Suez said it would pay a cash dividend to reflect the capital gains made last year when it sold its subsidiary, Banque Indosuez.

That would suggest a maximum payment of FFr3.4bn, and those close to the discussions indicated yesterday they expected the "super-dividend" to total at least FFr3bn.

Under current plans, if investors vote in favour of the merger, those with stakes in Suez would exchange between 2 and 2.1 of their shares for each Lyonnaise share.

Morgan Stanley, the investment bank, has been the lead adviser to Suez with assistance from Banque Indosuez, and Bankers Trust, the financial services group, has been adviser to Lyonnaise des Eaux, with assistance from Crédit Lyonnais.

Goldman Sachs, the US investment bank, is expected to provide a "fairness opinion" on behalf of Suez and Crédit Commercial de France for Lyonnaise when the boards next meet on April 11.

Suez published its 1996 results yesterday, which confirmed its return into the black with net profits of FFr843m after reporting losses of FFr3.96bn in 1995.

The figures included the effect of FFr961m in charges triggered by the sale of its portfolio of property loans, and FFr500m against its investment in the recently merged insurance group, Axa-UAP.

However, Suez reported net exceptional gains of FFr121m after taking into account FFr791m in the sale of non-strategic investments. There was a further FFr951m in profits triggered by subsidiaries it sold in 1996 – notably Banque Indosuez and Gartmore.

Lex, Page 16
Logic is simpler, Page 20
Saint-Gobain results, Page 20

Delisting threat to C & N after increased losses

By Ted Bardacke in Bangkok

Christiani & Nielsen, the Thai construction company which engineered a takeover of its Danish parent company in 1992, is in danger of being delisted from the Thai stock exchange after reporting higher than expected losses yesterday.

The exchange has threatened to delist the company if it fails to show a profit this year.

Under a rehabilitation plan submitted to the exchange. Christiani & Nielsen said it would post a profit of Bt63m ($2.4m) in 1997.

Analysts said that the projection appeared optimistic after the company yesterday revealed net losses increasing 178 per cent last year to Bt2.64bn. It had originally projected a 1996 loss of Bt2.4bn.

The reverse takeover, valued at $80m, was seen as a symbol of the dynamism of the Asian construction and property markets at the time compared with the downturn being suffered in Europe.

A boom in the Thai stock market contributed to the Thai subsidiary being valued at nearly double that of its Danish parent company.

The company's strength in Thailand, where it employs more than three-quarters of its workforce, had been expected to provide the base for the company to revamp its loss-making European operations.

But with the Thai economy slumping and the property sector in crisis, that foundation has cracked.

The average gross margin on construction work has fallen to 3 per cent from a high of 15 per cent in 1992 while the company has focused on the volatile private sector high-rise market, neglecting the political connections it needs to retap the more stable and lucrative public sector infrastructure business.

"The company embarked on rapid expansion despite a lack of qualified staff which led to poor bidding for projects, inadequate administration and oversight of operations resulting in poor gross margin, cost overruns and customers refusing to certify construction work when completed," said a recent report by brokerage W.I. Carr.

The company's order book at the end of 1996 was equivalent to just eight months of construction work - Bt6bn in Thailand, Bt500m in Europe - and Bt600m from the Intertec Group, the company's mechanical and electrical engineering arm.

The problems in Europe continue, according to the company's rehabilitation plan.

Christiani & Nielsen took a large charge when it sold out its controlling stake in loss-making German property developer Nobleclear.

The sale was made to the company's main Thai shareholders, the Crown Property Bureau and Siam Commercial Bank, in an attempt to clean up the company's books.

Dispute blocks Bezeq's path to market

Planned flotation of the Israeli telecoms group is being held up by a row between shareholders

Investors in Bezeq, Israel's state-controlled telecommunications network, were disappointed that its 1996 results gave no hint of a resolution of the long-running dispute between the company's two largest shareholders, the Israeli government and Cable and Wireless.

The UK-based telecoms group has 10 per cent of Bezeq's shares (and one seat on the board) and wants a further 10 per cent.

But Mrs Limor Livnat, Israel's communications minister, argues that Bezeq is vital to Israel's security and is against foreign groups having a substantial stake in the company.

Last year she gave new weight to existing laws which prevent any company from buying more than 5 per cent without first informing the government. C&W could ask, but it would be turned down.

C&W was more than disappointed. By acquiring more than 10 per cent, it could have consolidated Bezeq's results in its balance sheet.

Furthermore, Mr Richard Brown, C&W chief executive, sees Bezeq as the core of his Middle East strategy.

Over the past several months, both sides have been trying to agree a compromise, through which C&W and the government would form a joint company to control 20 per cent of Bezeq.

The state would hold 51 per cent of the joint company, and C&W the remainder. This might allow the UK company to consolidate Bezeq's results in its balance sheet.

So far, however, governmental approval has not been forthcoming.

Mr Avi Hochman, acting chairman of Bezeq, says the failure to reach agreement is damaging strategy, in particular the planned flotation of the company.

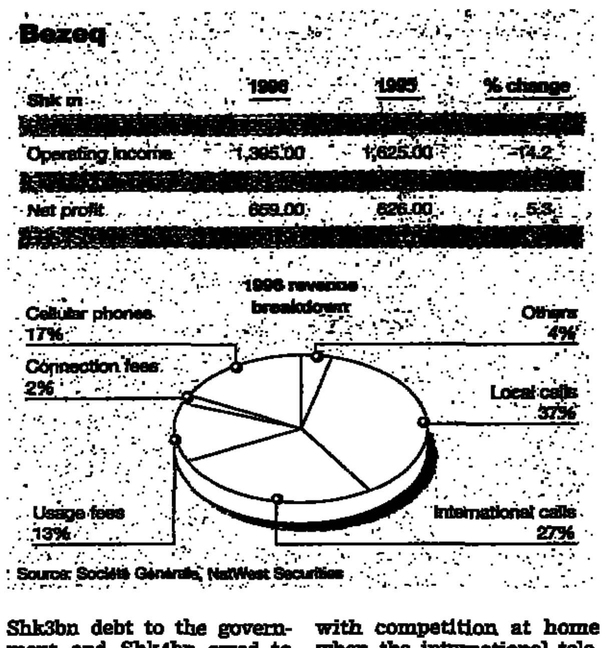
Impatient to be free of government control, the company is hoping to reduce the state's stake from 76 per cent to 51 per cent by the end of this year, through an international or a domestic listing, or both.

"We have to know where the government stands with C&W before we even consider issuing a prospectus or approach the international markets," Mr Hochman says.

He would prefer an international listing to a domestic one, since the Israeli market is too small to absorb a 25 per cent tranche of Bezeq shares. The response to Bezeq's recent $150m seven-year syndicated loan at 0.325 per cent above Libor reassured it of investors' confidence.

The company has modernised itself beyond recognition. It has managed to stop long delays in installing new lines – less than 10 days is now the norm – and the entire national network has been digitalised over the past five years.

Bezeq intends to raise a total of Shk1.5bn ($446m) in loans this year to cover its Shk3bn debt to the government and Shk4bn owed to banks and other financial institutions.



An international listing would allow Bezeq to expand into new markets, to cope with competition at home when the international telephone sector is liberalised later this year.

This will reduce the cost of phone calls by between 50 per cent and 70 per cent.

Flotation would also give Bezeq much-needed cash to finance a Shk10bn five-year programme, which will include improving infrastructure and services.

Competition will inevitably affect Bezeq's balance sheet. More than 27 per cent of its annual revenues, which stood at Shk8.2bn last year, will be challenged as its monopoly breaks down.

There will be some compensation from the government – its royalties, for example, will decrease from 8 per cent to 5 per cent. And Bezeq will receive fees from rival international operators who have to use its network to deliver their calls.

But Mr Hochman admits the government could do more to prepare one of Israel's most successful companies for competition.

Bezeq's existing licence enables it to provide conventional "plain old telephone services". Mr Hochman, however, wants to diversify into the growing multimedia market.

"We have to enter many more services – teleshopping, banking. But we cannot do that until the licence is brought up to date," he says.

In spite of its commitment to privatisation and competition, the government seems slow in preparing Bezeq for this challenge.

"All we are asking is that Bezeq is given the chance to compete fairly," Mr Hochman says.

But planning is difficult while uncertainty remains over the flotation.

"Bringing the government's stake down to 51 per cent is achievable this year. Give me the mandate and I will show it is achievable," he says.

Like investors, Mr Hochman is still waiting for the green light from the government and the end to its dispute with C&W.

Judy Dempsey

Israeli banking group ahead 9%

By Avi Machlis in Jerusalem

Bank Hapoalim, Israel's biggest banking group, yesterday said net profits rose 9 per cent in 1996, after a 15 per cent increase in the fourth quarter.

Hapoalim is at the centre of the government's plan to rapidly sell off its holdings in companies and banks. Two investor groups are lining up to bid for at least 25 per cent of the bank.

In the fourth quarter, net profits climbed from Shk105m a year before to Shk122m (US$36.3m) in 1996. Operating and other income jumped 18 per cent, from Shk522m to Shk614m.

Analysts attributed the strong quarter to a revival in the Tel Aviv Stock Exchange during the period, which led to an increase in commissions from securities transactions and fund management fees.

Net profits for the year were up from Shk743m in 1995 to Shk812m. Profits included Shk135m of income from selling non-financial holdings, in line with recent banking legislation.

Operating and other income for the year rose a modest 3 per cent from Shk2.10bn to Shk2.17bn, as a weak stock market during most of the year led to a decline in commissions.

Profits from financing activities, before provisions for doubtful debts, were up 2 per cent to Shk3.52bn. Provisions for doubtful debts fell slightly, from Shk1.08bn to Shk1.06bn.

Grupo Torras to repay 10% of Pta217bn debt

By Tom Burns in Madrid

Grupo Torras, the ill-fated holding company set up in Madrid by the Kuwait Investment Office, has emerged from receivership.

A chastened Grupo Torras said yesterday there would be no resumption of the aggressive take-over strategy that characterised its dealings in the late 1980s.

This ultimately led to its collapse in December 1992, by which time it owed Pta217bn ($1.53bn) to unsecured creditors. Of this, Pta205bn was owed to companies related to the Kuwait Investment Authority (KIA), which controls Kuwait's overseas assets.

A Madrid court last week finally lifted a suspension of payments order on Grupo Torras, allowing it to resume normal business. The move came more than 18 months after the KIA and the Spanish government's credit agency undertook to renew funding to Grupo Torras.

However, subsequent challenges to a creditors' agreement that had been sanctioned by the receivers office prolonged the receivership period.

The first task of Grupo Torras is to begin paying back creditors under the terms of the agreement. The company will over the next 12 months pay out only Pta25.1bn of the total Pta217bn debt, with the KIA-related creditors writing off Pta184bn.

Other large creditors to Grupo Torras, which will receive 10 per cent of what they had lent, include the Spanish tax authorities, the domestic institutions Banco Bilbao Vizcaya and Caja Madrid, and Sumitomo Bank of Japan.

The KIA is now likely to keep Grupo Torras on a tight rein, and analysts expect it to explore every opportunity to recoup some of its losses through disposals. With its balance sheet finally cleared up, the holding company now has estimated assets of Pta54.9bn, against Pta355.9bn in 1991.

It has maintained ownership of Torras Papel, Spain's leading paper manufacturer, as well as 35 per cent of Ebro, the main domestic sugar producer and 14 per cent of Ercros, a former conglomerate that now concentrates on basic chemicals.

Grupo Torras will continue to be run by a Spanish auditor, who was appointed sole administrator of the company when it went into receivership. He reports directly to the KIA in London.

The company said there were no plans to appoint a new managing director and board.

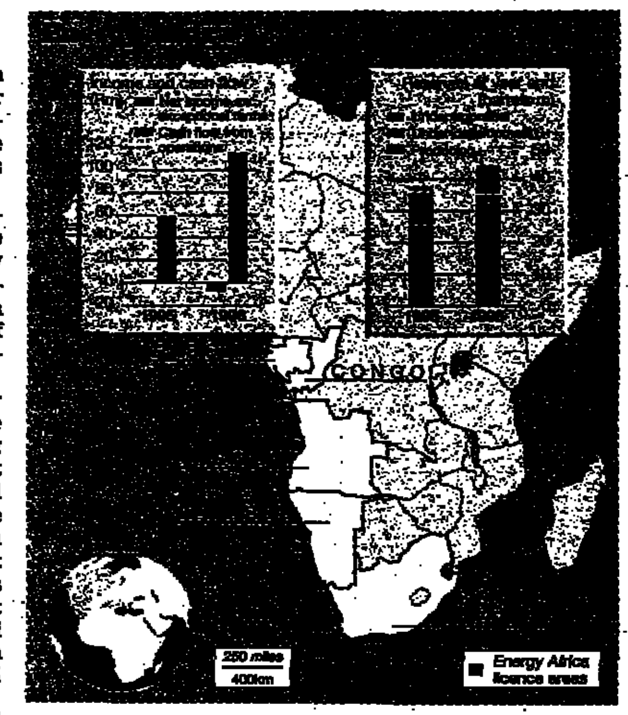
The KIA sacked the Grupo Torras board shortly before it went into receivership. Fifty-seven of its former managers and advisers face civil action in London and Madrid courts under the terms of writs issued in 1993 that allege conspiracy to defraud and breach of duties.

Energy Africa seeks more black investors

By Robert Corzine

Energy Africa, sub-Saharan Africa's only private sector oil and gas exploration company, wants to attract more black empowerment groups to its shareholder register.

Mr John Bentley, managing director, said the Cape Town-based company wanted more African investors, as well as participation from the growing number of South African black empowerment groups.



The company is 60 per cent owned by Engen, the South African oil refining and marketing group. But Mr Bentley said he would like to see Engen's stake diluted when Energy Africa next needed to attract finance. Additional funds should not be needed for at least a year. "But I would eventually expect the Engen share to be diluted," he said in an interview.

The company has enjoyed high level backing from the South African government over the past year, helping it to secure new exploration and development deals in Gabon and Angola.

Last week Energy Africa reported it had moved into profit for the six months to the end of February, with net income of R12.7m ($2.87m), compared with a R1.9m loss in the same period last year.

A 53 per cent rise in net production to 10,200 barrels a day boosted turnover to R149.4m, compared with R69.7m.

Mr Bentley said he hoped a recent agreement in Gabon could be a model for other African deals. Local investors will take part along with the Gabon government in Energy Africa's joint venture in the country.

Mr Bentley said the legalities of such a venture were complicated. But he thought the arrangements would further enhance the company's ability to gain preferential negotiating rights.

One problem with expanding the role of black empowerment groups in Energy Africa was their need for dividends, which the company does not pay – in common with a number of other energy and power groups.

Charge puts SPT into the red

By Vincent Boland in Prague

SPT Telecom, the Czech telecoms operator, fell into the red in 1996 after taking a one-off restructuring charge of Kč8.75bn ($300.8m) for asset write-downs and future job losses.

Shares in SPT, 27 per cent owned by PTT Telecom Netherlands and Swiss Telecom, closed down Kč25 at Kč3,425 after the results, but analysts were generally positive, pointing to a strong rise in revenues and to potential tax savings from the write-downs.

Of the Kč8.75bn charge, Kč7bn covers a write-down of the value of analog systems as the company switches to digitalisation, and an adjustment to fixed assets, while Kč1.2bn relates to provisions for future job losses.

SPT is to cut 10,000 jobs from its 26,800-strong workforce by 2000. Some 6,000 will be redundancies. The aim is to boost lines per employee from the 109 now to near 300.

The restructuring charge left SPT with a net loss of Kč483m for 1996 compared with net profit of Kč4.8bn the previous year. Revenue surged to Kč32.5bn from Kč26.4bn, reflecting the addition of 417,000 new customers, expanding the penetration of lines to 27.5 for every 100 people.

Operating profit falls at Varig

By Jonathan Wheatley in São Paulo

Varig, the leading Brazilian airline, released headline figures showing losses of R$64m (US$60.4m) last year after losses of R$7m in 1995, according to corporate law. However, profits totalled R$91.7m, compared with a loss of R$7.5m, after adjustments to take account of inflation of about 10 per cent during the year.

Under changes to Brazilian corporate law introduced at the end of 1995, companies must publish unadjusted results, but may also issue figures under the previous method of correcting for inflation, which analysts regard as a better indication of performance.

Varig's operating performance showed a sharp decline under both reporting methods. Profits fell to R$23.6m (R$20.6m under corporate law), after rising from R$112.8m in 1994 to R$250.5m in 1995.

The company blamed a weak start to the year, caused by airport strikes in important destinations, restrictions on US visas, and by a decline in the Brazilian market following a government credit squeeze.

Turnover was R$3.14bn, down from R$3.44bn in 1995. Varig said it expected sales to recover to R$3.3bn in 1997. The number of passengers carried climbed about 10 per cent in the first quarter from the same period last year.

The discrepancy between Varig's results under the two reporting methods stems largely from dollar-denominated debts of $2.2bn. Under corporate law, foreign currency debts have a bigger impact as the Real depreciates in line with inflation, while asset values remain static.

With little prospect of reducing its indebtedness, the company is likely to face difficulties in generating sustained growth.

"Its financial situation is very tight," said Mr Marcelo Starec of Bozano Simonsen, a Rio de Janeiro investment bank. "Varig is generating cash flow of about $300m a year, enough to make interest payments of about $215m but not enough to amortise its debt. That makes us wonder what will happen as the aviation market becomes more competitive. It must find ways of becoming more efficient."

The company has begun a restructuring programme aimed at cutting costs. But its ability to take more radical measures is limited by Varig's ownership structure, under which control is concentrated in the hands of a foundation administered by the company's employees.

Because dividends must be calculated according to corporate law, the company said it would make no dividend payments for 1996.

A time of transition for Bimbo

The managerial baton is being passed on as the Mexican group expands its horizons

Bimbo, one of Mexico's most conservative family-run businesses which dominates the $2bn market for sliced bread, cakes and biscuits, is undergoing its first generational handover since two brothers, Lorenzo and Roberto Servitje, founded the country's second-largest food company 52 years ago.

Don Lorenzo, 79, and Don Roberto, 69, will remain on the company's board of directors, but the managerial baton is being passed on to Daniel Servitje, Don Lorenzo's 39-year-old son, who will take over as Bimbo president and chief executive officer in May.

The change accompanies Bimbo's transition into a fully-fledged multinational.

Over the past three years, the company has expanded aggressively into the US and Latin America, where it is now the market leader in seven countries: Argentina, Chile, Venezuela, Costa Rica, El Salvador, Guatemala and Honduras.

Bimbo recently launched operations in Colombia in a joint venture with Grupo Leal, and hopes to become the market leader there too.

"We were a very big fish in a small pond," says Mr Rafael Velez, Bimbo corporate president. "So when Mexico joined the North American Free Trade Agreement in 1994, we decided that the only way to protect our market was to meet the competition on its home turf, and that meant expanding abroad."

Bimbo's expansion, which required investment outlays of $600m in three years, was all the more unusual as it coincided with Mexico's economic crisis.

The company, however, weathered the financial turmoil better than most of its peers due to its extremely low leverage: its net debt to equity ratio averaged less than 21 per cent in 1996. As a result, Bimbo financed most of its foreign acquisitions with internally generated cash flow.

In the US, where Bimbo first established a presence 18 years ago, sales have grown rapidly and totalled almost $175m last year.

The continuing squeeze on real incomes in Mexico limits Bimbo's growth potential at home

Bimbo's main market in the US is the Hispanic community in Texas and California, and in spite of the unfortunate connotations of the company's brand name in English, Bimbo has kept its logo on its US products.

"We tried other brand names but it just didn't work," Mr Velez explains. "For Mexican migrants, Bimbo is a household name."

Within Mexico, Bimbo withstood a sharp fall in profits in 1995 after acceding to a government request to hold down bread prices to help contain the inflationary pressures of the traumatic devaluation of the peso.

Profits bounced back in 1996 to 808m pesos ($102m), a 158 per cent increase over 1995, when Bimbo was allowed to adjust its prices.

In spite of the economic downturn, the company did not fire a single one of its 53,850 employees.

"We do not shed personnel; it is part of the company's social philosophy," says Mr Velez, an employee of 30 years standing.

Bimbo's paternalism extends to the provision of company pensions – a rarity in Mexico – while its conservative ethos is evident in the company's spartan headquarters in Mexico City: the only concession to corporate decor is a framed edition of a 1945 newspaper advertisement announcing the inauguration of Bimbo's first bread factory. There are no executive dining rooms.

Mr Velez expects the company's foreign operations, which contributed 16 per cent of Bimbo's $2bn sales last year, to grow in importance, given the continuing squeeze on real incomes in Mexico which limits Bimbo's growth potential at home.

Domestic demand for Bimbo products is expected to grow by only 3 to 4 per cent in volume this year, according to the company's projections.

Mr Velez says the next two years will be ones of consolidation for Bimbo. He does not expect significant shifts in company strategy with the changing of the guard.

Profits from its foreign subsidiaries will be reinvested to expand those operations, and there are no more acquisitions planned at present.

Leslie Crawford

This is the ninth in a series on Latin American family-run companies. Previous articles appeared on January 17, January 27, February 13, February 18, February 28, March 12, March 21 and March 27

Kroll agrees to takeover by Equifax

By Richard Tomkins in New York

Kroll Associates, the best-known operator in the world of corporate gumshoes, has spent 25 years building up its reputation as a white-collar crime buster. Now the New York company has itself been grabbed.

After a year or more of speculation that it was looking for a merger partner, it yesterday announced it had agreed to be taken over by Equifax, an Atlanta-based credit-checking company. Terms were not disclosed.

Equifax plans to integrate Kroll with its insurance information services division, saying the acquisition would increase its ability to give customers the information they need to manage complex business risks.

Kroll has about 300 employees in 22 offices around the world. Revenues last year are believed to have been about $70m.

Kroll pioneered the field of detective work for corporate clients, helping big companies in the US and overseas spot fraud, assess risk, do due diligence work on potential acquisitions and manage internal security.

In the takeover boom of the 1980s it experienced a surge in demand for its skills for due diligence and for damaging the reputations of hostile bidders.

In the UK's bid battle between Hanson and ICI, Kroll discovered that the late Lord White, head of Hanson's US operations, had a string of race horses bought for him by his company, a revelation that did nothing to help Hanson's ultimately unsuccessful bid.

More recently, Kroll's contracts have included tracking down Iraqi assets after the Gulf war of 1991; setting up systems to prevent a recurrence of Orange County's financial collapse; and working with UK investment banks to try to stop teams of traders leaving.

However, the company has suffered increasing competition, not just from other specialist operators, but from big accountancy firms, which have been expanding into this area.

Last year Kroll was said to have held merger talks with Coopers & Lybrand.

The Equifax division with which it is now merging claims to be among the world's biggest providers of information and custom systems to mitigate risk and fraud in insurance, business, and government.

Equifax is due to spin off its insurance information division this summer under the name ChoicePoint, which will be separately quoted on the New York Stock Exchange.

Kroll will form part of this company, retaining its own name and management structure.

Monsanto agrees Calgene purchase

By Laurie Morse in Chicago

Monsanto, the St. Louis based chemicals and life sciences company, said it had reached an agreement with Calgene to acquire the remaining shares of the California-based biotechnology pioneer for $8 a share.

The offer is substantially higher than the $7.25 per share offered by Monsanto in January, and raises the value of the deal to about $240m.

Monsanto already has a controlling interest in Calgene, and said full ownership would speed technology sharing between the two companies. "We can now better realise the benefits from Calgene's research by combining our technology efforts and bringing our products to market more rapidly," said Mr Hendrick Verfaillie, Monsanto executive vice-president.

The deal will give Monsanto complete ownership of Calgene's extensive research into plant genetic engineering, where it has been a pioneer in fruit and vegetable research, and in designing seeds that yield enhanced vegetable oils.

Calgene also has a cotton seed business which analysts say Monsanto may swap for other plant-engineering technology.

Monsanto announced late last year it would spin off its traditional bulk chemicals business and become a life sciences company. The group has been acquiring companies that have biotechnology research that complements its life sciences strategy.

"Monsanto's strategy is much like Microsoft or Netscape," said Mr James Wilbur, securities analyst at Smith Barney in New York. "Almost anyone will have to use their technology to do business in this field."

Mr Wilbur said he expected Monsanto to swap Calgene's Stoneville cotton seed business to another California-based agricultural bioengineering company, Mycogen, in exchange for rights to use Mycogen's processes for creating insect-resistant cotton and corn.

Calgene has piled up a string of operating losses which Monsanto is expected to use to reduce income taxes, cutting the real cost of the Calgene purchase.

The purchase agreement was approved by a special committee of Calgene directors who were independent of Monsanto and not Calgene employees. Monsanto expects to begin a tender offer for the Calgene shares on April 7.

The agreement is subject to the negotiation of a settlement of shareholder lawsuits that were filed after Monsanto's initial purchase offer was made in January.

AMERICAS NEWS DIGEST

SEC filing shows Liggett difficulty

Liggett, the US cigarette maker that caused a storm two weeks ago by reaching a deal with anti-tobacco forces, is in serious financial difficulties, a filing with the Securities and Exchange Commission shows. The figures shed more light on the the decision by Mr Bennett LeBow, chairman and chief executive of Brooke Group, Liggett's parent, to hand over part of Liggett's pre-tax profits to tobacco opponents as part of the legal settlement.

The SEC filing, consisting of Brooke Group's annual report, reveals that the agreement was in large part meaningless because Liggett did not make any pre-tax profits last year and does not expect to do so in the near future. Liggett's accounts are heavily qualified by the company's accountant, Coopers & Lybrand, which warns that looming debt repayments "raise substantial doubt about the company's ability to continue as a going concern".

The filing shows that Liggett made operating losses of $18.4m last year and expects still larger operating losses this year. Based on this trend, it does not expect to generate sufficient cash from operations to meet payments on some secured notes next year and the year after without restructuring or refinancing its debt.

Analysts say Liggett's motivation in reaching a deal with tobacco opponents was to make the company attractive as a takeover target if litigation started to go against the industry. *Richard Tomkins, New York*

Scotiabank to expand abroad

The most international of Canada's big six banks will spend at least C$200m (US$153m) this year to expand operations in South America, the Middle East and Asia. The Bank of Nova Scotia, with total profits last year of C$1.07bn, is in negotiations to buy a share of Peru's Banco Sudamericano and increase its 25 per cent stake in Argentina's Quilmes, said Mr Peter Godsoe, the bank's chairman. Scotiabank will re-open operations in Lebanon and possibly in Indonesia, and is considering acquisitions in El Salvador and Guatemala, adding to its string of holdings in more than 50 countries.

Mr Godsoe said his bank was looking to re-invest in emerging markets operations because they are generally more profitable than those in mature markets back home.

Scotiabank's non-North American operations generated C$331m, or 31 per cent, of total profits, even though they represented 23 per cent of the bank's earning assets of C$148.5bn.

Scotiabank has aggressively moved into Latin American markets in the last year. The bank took administrative control of ailing Grupo Financiero Inverlat, Mexico's fourth largest bank. *Scott Morrison, Vancouver*

Reichmanns back in property

The Reichmann family is returning in force to the Canadian property market through a merger of Camdev and O&Y Properties. Both companies are controlled by Reichmann Hauer Holdings, in turn owned by Mr Philip Reichmann, son of Mr Albert Reichmann, and Mr Frank Hauer, son-in-law of Mr Paul Reichmann.

Paul and Albert Reichmann built Olympia & York Developments into the world's biggest property developer until it failed in the early 1990s.

O&Y Properties acquired Camdev, the shell of entrepreneur Mr Robert Campeau's property empire, last December and has now bought a further 8m shares held by Citibank Canada. In a series of transactions, including a public issue, Reichmann Hauer will own 55 per cent of the merged group with the balance publicly held. The company will invest in office buildings in Toronto and other Canadian cities. *Robert Gibbens, Montreal*

CANTV approves dividend

Compañía Anónima Nacional Teléfonos de Venezuela (CANTV), the Venezuelan telecommunications company, has approved a cash dividend of Bs13.24 a share for its 1996 fiscal year. CANTV's American Depositary Shares, each representing seven class D shares, will receive a dividend of Bs92.68. The company said payment of the dividend, will be announced in the near future. During Monday's shareholders' meeting, CANTV president, Mr Gustavo Roosen, was confirmed in office. *Raymond Colitt, Caracas*

Venezuelan utility ahead

Electricidad de Caracas, the Venezuelan power utility, announced a net profit of Bs61bn ($128m) for 1996, up in nominal terms from Bs33.1bn in 1995. Operational gains totalled Bs55bn in 1996, down 42 per cent over the previous year in real terms. *Raymond Colitt*

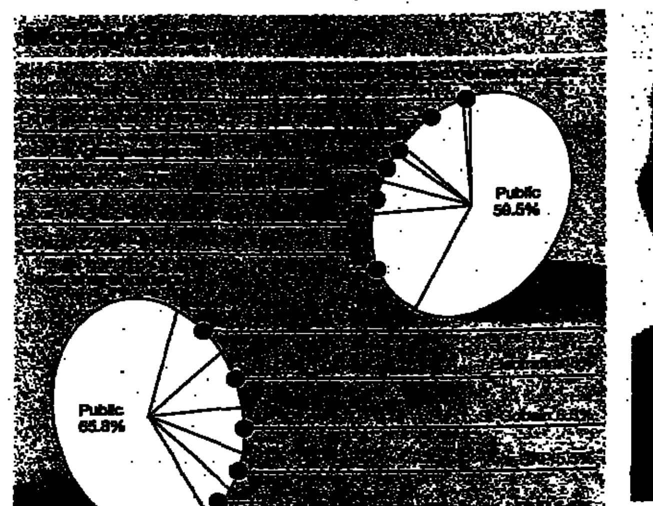
COMPANIES AND FINANCE: EUROPE/MIDDLE EAST

Logic is simpler than logistics

A merged Suez-Lyonnaise des Eaux may be tricky to achieve, says Andrew Jack

More than two years after it was first seriously mooted, the prospect of a merger between Compagnie de Suez and Lyonnaise des Eaux, two of France's leading quoted companies, is heading rapidly towards completion this month.

Gérard Mestrallet: strategy change cheered markets



Jérôme Monod: has been wooing Suez for two years

By the time the boards of the groups reconvene at the end of next week, the finishing touches are likely to have been put in place to proposals which could trigger an important realignment in the European utilities sector, and would symbolise a transformation in French-style capitalism.

In early 1995, Mr Jérôme Monod, chairman of Lyonnaise, the utilities and communications group, held discussions with the then chairman of Suez, Mr Gérard Worms, whose group was under pressure from a rival takeover plan.

When the financial markets caught wind of the proposal, Lyonnaise's share price dropped sharply, and the initiative was rapidly shelved.

Market reaction was far more positive when rumours of a new round of courting between Lyonnaise and Suez trickled out earlier this year. The changing sentiment was largely the result of the strategy launched by Mr Gérard Mestrallet, who replaced Mr Worms after a boardroom coup in the summer of 1995.

He sold off much of Suez's costly property lending and development portfolio, disposed of Banque Indosuez, converted heavy debts into a cash pile which now stands at FFr5.4bn ($959.4m), and focused on two core activities: specialised financial services and utilities, reinforced last year by the acquisition of a controlling 63 per cent stake in Tractebel, the Belgian utilities group.

Other positive messages – including the offer of a share buy-back last year – seemed at last to demonstrate that there was room for optimism for investors, who had been stung by the poor performance of their stakes since Suez was privatised in 1987.

Yet the group remains, in the words of one analyst, "a large investment trust, which has not performed very well and still has many illiquid assets".

A holding company which contained both Lyonnaise and Tractebel would create a far more operational business, offering the prospect of reducing the heavy discount to net asset value at which Suez trades.

For Lyonnaise shareholders, the merger would offer the chance to be part of a larger group, which would have access to Suez's substantial cash pile to help fund future acquisitions, and be able to work in far more closely with Tractebel, notably in the battle for "multi-utilities" contracts.

Such an alliance should prove particularly important – if not essential – in the intensifying competition likely to follow the deregulation of utilities provision within Europe, scheduled to begin next year.

But the logistics of combining the two groups are not simple. Suez already has an 18 per cent stake in Lyonnaise, and significant cash. A takeover would be extremely costly, however, and the legal status of Lyonnaise's utilities contracts could be thrown into doubt and have to be renegotiated if it were taken over.

Any form of operation on the public markets would also risk generating substantial goodwill and write-offs, as well as forcing an issue of new shares, which could prove dilutive for existing shareholders, reducing the value of their investment.

A merger seemed the most logical solution. But it, too, presents problems. Suez is the epitome of a distinctly French-style approach to capitalism, and stands at the centre of a web of cross-shareholdings put together during the 1980s. The result is that it is accountable to some large corporate investors, not all of which will be easily convinced of the advantages of the deal.

Some – such as Générale des Eaux, the leading rival French utilities group which owns an indirect stake in Suez through Electrafina of Belgium – are philosophically opposed to a move which threatens their own market position.

Others are more pragmatically concerned that – after holding on to poorly performing Suez shares over many years - they should be able to reap some financial reward for the turnround at the group before any merger takes place.

That is why there is increasing discussion of a "super-dividend" of FFr3bn or more which would be distributed to investors. Subsequently, Suez shareholders would receive one share in Lyonnaise des Eaux in exchange for every 2 or 2.1 shares they owned.

But the operation would not finish there. Many analysts are convinced that the logic of the merger would drive Suez ultimately to divest most of its businesses outside the utilities sector, such as Sofinco, its consumer credit arm, in which Crédit Agricole already holds an option to buy 20 per cent.

Equally, there is scepticism over whether Tractebel and Lyonnaise des Eaux would survive as separate operational businesses at arm's length. Long-term, some combination of the two is a clear possibility.

Other vexed questions include the name of the merged group, and the precise roles to be given to top executives at Lyonnaise and Suez.

Saint-Gobain set to unravel shareholdings

By Andrew Jack

France's long-standing system of corporate cross-shareholdings was dealt a blow yesterday when the head of Saint-Gobain, the French glass and building materials group, announced plans to unravel investments in other companies.

Mr Jean-Louis Beffa said he would "significantly" reduce his group's stake in Suez, the French holding company in which Saint-Gobain holds 6.3 per cent, as part of a shift towards a "purely financial" vision of profitability.

His action comes after a number of other French companies which were tightly linked have recently begun to unwind their mutual investments. This has been in response to a number of factors, including the privatisation of the insurer AGF, the merger of insurers Axa and UAP, and restructuring at Crédit Lyonnais, the state-owned bank.

Mr Beffa said that until recently it had been impossible for Saint-Gobain to sell its investments in other companies, because their low stock market value would have triggered significant capital losses.

He stressed that some cross-shareholdings were more strategic and less likely to be rapidly sold – notably those in Générale des Eaux, in which Saint-Gobain owns 9.6 per cent, and Banque Nationale de Paris, in which it has 1.6 per cent. It also owned 1.1 per cent of UAP before the merger with Axa.

The cross-shareholding system was created in the late 1980s, when French companies sought allies at the time of their privatisation, rather than risk falling under foreign control.

Mr Beffa's comments came as he unveiled net income for the group of FFr4.3bn ($764m) in 1996, compared with FFr4.2bn in 1995. Sales jumped from FFr70.3bn to FFr91.4bn, and there were restructuring charges of FFr1.2bn compared with FFr569m. Net debt increased more than three-fold, from FFr3.9bn to FFr14.8bn.

Dexia reports 10% rise for year

By Andrew Jack in Paris

Dexia, the Franco-Belgian banking group, yesterday unveiled net income up 10 per cent on a pro forma basis to FFr3.2bn ($569m) for 1996, the first full set of results since its merger was finalised last year.

Mr Pierre Richard, chairman, predicted growth in its lending to French local authorities would rise in response to fresh demand for public infrastructure investments in 1997.

Dexia announced last month it would take up to 40 per cent in the Italian lender Crediop, after securing a 5 per cent stake in Banque Internationale à Luxembourg. Mr Richard said yesterday Dexia would "not remain inactive" during the coming year, hinting at further investments.

The group comprises Dexia France, quoted in Paris, and Dexia Belgium, partly quoted in Brussels, both of which hold 50 per cent stakes in the two operating subsidiaries – Crédit Local de France and Crédit Communal de Belgique.

Dexia revealed that Crédit Local de France had increased the level of provisioning on its loan to Eurotunnel, the troubled operator of the Channel tunnel rail link, to 45 per cent. This is well above the minimum level recommended last year by the French banking commission.

It said it had taken the decision in the interests of prudence, and would review the risk after Eurotunnel published its results for the second half of the year.

Crédit Local de France also sold its 0.5 per cent stake in UAP, the French insurer which earlier this year merged with its rival Axa. It had bought the shares at the time of UAP's privatisation in 1993, and said the effect of the sale was neutral.

That contrasts with other investors in UAP, including Banque Nationale de Paris, which reported considerable capital losses when they sold their stakes.

Dexia reported banking income up 10 per cent to FFr12.6bn for 1996, and operating profits up 14 per cent to FFr6.1bn. Provisions rose from FFr180m to FFr291m and other charges increased more modestly from FFr744m to FFr777m.

Return on equity was 11.5 per cent, and the aim is to lift this to 13 per cent.

PSC to buy into Danish shipyard

By Hilary Barnes in Copenhagen

Malaysia's Penang Shipbuilding Construction (PSC) group is to pay $100m for 48 per cent of the loss-making Danish shipyard, Danyard, which is owned by Lauritzen Holding, the shipping and shipbuilding group.

Danyard is part of one of five consortia short-listed by the Malaysian ministry of finance to bid for an order to build the first six of a total of 27 ocean patrol vessels.

Lauritzen will offer a further 27 per cent of the shares in the shipyard to Danish investors. If there are no takers, Mr Amin Shah, the Malaysian businessman who controls PSC, has an option to increase his holding to 65 per cent.

However, Danish legislation does not permit a foreign company to own a controlling interest in a company which manufactures or sells military equipment. To guarantee the much-needed foreign investment, Danyard's naval shipbuilding operation has been hived off as a separate company, Danyard Aalborg. PSC will own 40 per cent of its capital but only 20 per cent of the voting shares.

Danyard is expecting heavy losses for 1996, blamed on miscalculations when it accepted orders to construct chemical tankers for US company Stolt Nielsen, and two high-speed Seajet ferries for a Danish group.

The chemical carrier order is expected to cause a loss of about DKr1bn ($156.5m) on an order originally worth DKr3.6bn. Some DKr560m of this will be taken in the 1996 accounts.

● Topdanmark, Denmark's third-ranking insurance company with premium income last year of DKr4.39bn, reported its best result for the past six years, with profits rising from DKr26m in 1995 to DKr272m.

However, the board said that return on equity capital of 10 per cent was not yet satisfactory and that no dividend would be paid for the third successive year.

INTERNATIONAL NEWS DIGEST

Class action over Holocaust cover

A group of Holocaust survivors has filed a class action law suit in New York seeking $7bn against seven large European insurers, claiming that the companies refused to pay out on policies of relatives who died at the hands of Nazis.

The suit, filed on Monday in the US District Court in Manhattan, names as one of its targets Assicurazioni Generali, Italy's largest insurer, which is already defending itself against similar allegations made by a group of 53 families in Israel. Generali, which had its roots in the Austrian-Hungarian empire, had a dominant market share in Eastern Europe before World War II.

Yesterday, Mr Guido Pastori, director general of Generali in Trieste, said the company would not comment until it had seen the full 30-page suit. However, he said Generali's subsidiaries in Eastern Europe were nationalised by communist governments after the Second World War, along with those of most of its competitors. The company, therefore, had no legal obligation to pay policies. "We never paid any policies issued in Eastern Europe after nationalisation," he said.

Terms of the nationalisation meant that the new state-owned insurance companies took over both the assets and liabilities of each insurer, Mr Pastori said. However, lawyers for the plaintiffs will argue that Generali and the other insurers had an obligation to pay claims with excess assets located outside Eastern Europe. According to the lawsuit, relatives of Holocaust victims who had been policyholders made repeated attempts to obtain payment of claims from the insurance companies but were rebuffed.

Other parties named in the suit are Wiener Allianz Versicherung Aktiengesellschaft (also known as Phenix Allgemeine Versicherungs Aktiengesellschaft), the French insurer AGF, Italian insurer Riunione Adriatica Di Sicurta, Allianz Group of Germany, Austrian-based Der Anker and Bavarian Reinsurance Company based in Munich.

Norma Cohen

Israel Corporation falls 71%

Israel Corporation, a leading holding company, said net yesterday profits declined 71 per cent in 1996, as a number of its subsidiaries recorded poor results. Net profits dived from Shk84m in 1995 to Shk24m ($7.15m) last year. Revenues were down 14 per cent from Shk3.82bn to Shk3.30bn. Earnings per share were Shk4.25, down from Shk17.8 in 1995. Capital gains dropped from Shk57m in 1995 to Shk31m last year.

Zim, the company's 49 per cent-owned shipping subsidiary, incurred a loss of US$16m in 1996, compared with net profits of US$15m the year before. Its poor performance was also blamed for Israel Corporation's fourth quarter loss of Shk18m.

Avi Machlis, Jerusalem

Czech bank 'to lift payout'

Komerçni Banka, the leading Czech commercial bank, reported a small rise in net profits for 1996, but promised to lift its dividend and increase the number of shares offered as Global Depository Receipts. In a difficult year for the Czech economy, Komerçni's net profit rose 2.5 per cent, from 5.1bn in 1995 to Kč5.24bn ($180m), calculated according to international accounting standards. Assets swelled to Kč446bn from Kč387bn.

Loans grew from Kč217bn to Kč240bn, but provisions against bad and doubtful debt fell from Kč28.5bn in 1995 to Kč25.7bn.

Komerçni is also considering a new issue of GDRs to boost the number of foreign shareholders. Some 8 per cent of its shares are currently in GDR form.

Vincent Boland, Prague

Bank Handlowy sale approved

The Polish government has given the go-ahead for the privatisation of Bank Handlowy, one of the country's largest. A total of 60 per cent of the equity will be offered domestically to institutional and retail investors, and abroad through Global Depositary Receipts. A further 30 per cent is to placed with long-term investors. The government, which is being advised by Schroders, expects to complete the sale within the next few months.

Christopher Bobinski, Warsaw

COMPANIES AND FINANCE: ASIA-PACIFIC

Japanese banks announce staff cuts and withdrawal from overseas operations

NCB unveils wide-ranging overhaul

By Gwen Robinson in Tokyo

Nippon Credit Bank, one of Japan's top 20 banks, yesterday announced a restructuring entailing complete withdrawal from overseas operations, staff cuts of more than 20 per cent and the sale of property including its head office in Tokyo and other domestic retail outlets.

The bank is to sell Y300bn (US$2.4bn) worth of new equity to other financial institutions to help rebuild its capital base, following write-offs of more than Y250bn in bad loans over the past year.

NCB reshapes by ...

- closing five outlets and seven representative offices overseas and selling affiliates outside Japan
- selling head office building in Tokyo, facilities and offices of all domestic outlets and other properties
- cutting staff of 2,900 by 20 per cent
- paying no bonuses to executives and cutting their monthly remuneration by 50%
- reducing wages for other employees by [illegible]
- liquidating its three non-bank lenders and disposing Y460bn bad loans
- seeking financial help from the Bank of Japan to increase its capital by Y300bn through floating new shares

The finance ministry confirmed it had asked 12 commercial banks and about 22 insurance companies to contribute capital through subordinated loans and the purchase of preferred shares. Their decision is expected by June, the ministry said. The Bank of Japan, the central bank, will contribute about Y80bn to NCB's capital increase from a special fund originally set up to deal with bad loans at Japan's failed *jusen* housing loan companies, said Mr Yasuo Matsushita, BoJ governor.

NCB, which has been struggling to dispose of more than Y1,000bn in bad loans, said yesterday it had revised down its earnings projections for the business year ended Monday and now expects to report an unconsolidated pre-tax loss of Y350bn, instead of Y7bn in unconsolidated recurring profit as previously projected. NCB's net loss for the year is likely to be Y285bn, a sharp reversal from the bank's earlier estimate of a Y15bn net profit. Stock market losses on NCB's equity portfolio contributed to the bank's poor results, with a Y100bn appraisal loss on holdings.

The bank also announced the liquidation of three non-bank financial affiliates – lenders without licenses to take deposits from the public. The three – Crown Leasing, Nippon Total Finance and Nippon Assurance Finance Service – are estimated to have combined debts exceeding Y2,025bn and yesterday filed for bankruptcy at the Tokyo court. Most of their debts are non-performing property-related loans stemming from the fall in land prices after the collapse of the bubble economy era in the late 1980s.

Banking analysts say liquidation of the three will place extra strain on their creditors, including Mitsubishi Trust and Sumitomo Trust, both main creditor banks of the NCB affiliates, and a network of agricultural-related financial institutions.

NCB shares fell Y19 to close at Y261 on concerns about the restructuring plan.

Japan banks merge ahead of 'big bang'

By William Dawkins in Tokyo

Hokkaido Takushoku, the smallest and weakest of Japan's top 10 commercial banks, is to close or sell all foreign operations and merge next year with Hokkaido Bank, a leading regional lender.

The merger, intended to create a "super regional" bank and reduce the combined workforce by a quarter, is the first to be inspired by the Japanese government's plans for sweeping deregulation of capital markets over the next five years.

Analysts welcomed it as a sign of more restructuring to come in Japan's overcrowded and under-profitable banking industry.

Mr Sadamasa Kawatani, president of Hokkaido Takushoku, said: "We need to build a sound and strong financial base to compete with rivals under the Japanese version of Britain's 'big bang' financial market reforms."

The new bank, to be called *Shin Hokkaido Bank* when the merger is consummated in April 1998, will have combined assets of Y13,500bn ($109.18bn), of which Y10,115bn will come from the commercial bank and Y3,347bn from the regional partner. It will have 8,300 staff and 340 outlets.

The commercial bank will dispose of its 20 foreign units, in the US, UK and Hong Kong, by the end of March next year. Analysts believe them all to be unprofitable.

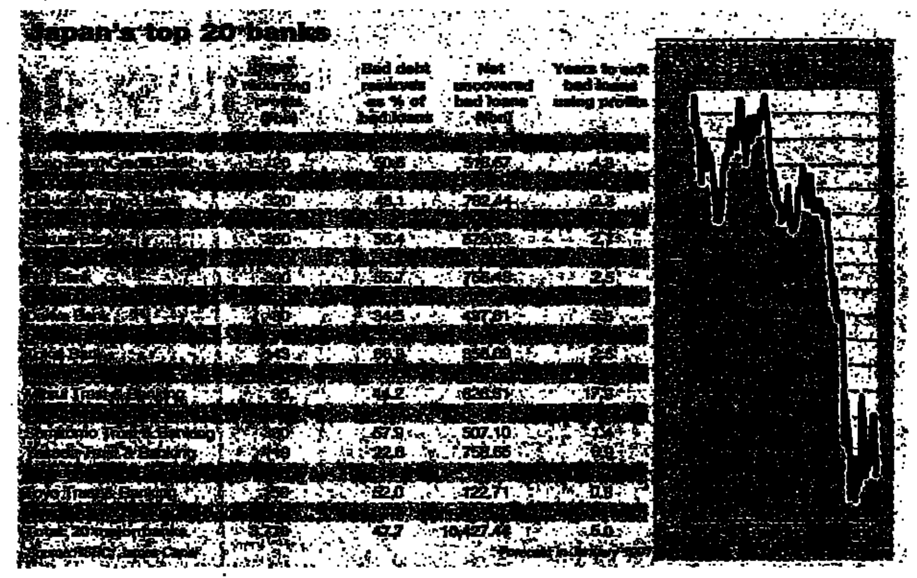
Hokkaido Takushoku had long been rumoured to be seeking a domestic merger partner. The recent fall in banks' share prices has brought its ratio of capital to risk-weighted assets below the internationally accepted minimum of 8 per cent, said analysts.

As a purely domestic Japanese bank, it would only have to keep to a capital adequacy ratio of 4 per cent.

However, the merged bank will have to raise fresh capital to achieve even that, said Ms Alicia Ogawa, analyst at Salomon Brothers Asia.

Hokkaido Takushoku yesterday slashed its forecast of recurring unconsolidated profits – before tax and extraordinary items – from Y7bn to Y1bn for the year just ended, because of losses on its securities holdings.

It made a loss of almost Y200bn in the previous year.



The bank has bad debts of Y936.5bn – a familiar legacy of excessive lending against overvalued property. The debts represent 13.3 per cent of outstanding loans, the worst among the top 10 commercial banks.

Hokkaido Bank has bad debts of Y166.5bn, or 6.3 per cent of its loan book.

The merger will take place through a one-for-one share exchange, valuing the new group at Y142bn at the suspension price.

Panel backs ANZ in row with Indian bank

By Nikki Tait in Sydney and Tony Tassell in Bombay

Australia and New Zealand Banking group (ANZ) said yesterday it could book a large abnormal gain after an Indian arbitration panel ruled in its favour in the company's long-running dispute with India's National Housing Bank, a subsidiary of the country's Reserve Bank.

However, ANZ acknowledged that the verdict could still be appealed against. Any gain is unlikely to be registered until the question of an appeal is resolved.

The dispute between NHB and ANZ's Grindlays subsidiary, one of the largest foreign-owned banks in India, arose out of the Bombay securities scandal in the early 1990s.

Grindlays credited the account of Mr Harshad Mehta, a Bombay broker at the centre of the scandal, with NHB cheques totalling just over Rs5bn ($139m), despite the fact that these were made out in ANZ's name and carried no instructions to pay Mr Mehta.

The Australian bank maintained it was following normal securities trading practice.

But in late 1992, at the request of the Reserve Bank, it was forced to deposit the disputed amount – Rs5.06bn – with NHB while arbitration got under way.

The arbitration verdict, reached at the weekend by a two-to-one majority, provides for the Rs5bn to be returned to Grindlays with interest.

This interest has been estimated by the Indian press to be between Rs3.5bn and Rs4bn.

ANZ did not make a specific provision in respect of the Rs5.06bn payment, on the basis of "firm legal advice from senior counsel".

However, it is understood to have made an allowance within its general provisions, which could be written back.

● ANZ has been given approval for a branch banking licence in Beijing.

It has a branch in Shanghai and representative offices in Beijing and Guangzhou.

HK group buys into Yaohan

Pacific Concord Holdings, the Hong Kong diversified manufacturing and telecoms company, is to buy a 19.87 per cent stake in Yaohan International Holdings, the Hong Kong arm of Japan's Yaohan retailing empire, for HK$134m (US$17.4m), agencies report from Hong Kong.

The deal is the first step in forming an alliance between Pacific Concord and Yaohan for the development and operation of department stores and supermarkets in China.

The alliance also allows Pacific Concord the use of the Yaohan identity and the distribution of Yaohan brand-name products to all Concord stores in China.

Yaohan, which operates more than 400 stores worldwide, said the sale of the stake would not derail its expansion plans in China, where it has invested an estimated $350m.

ASIA-PACIFIC NEWS DIGEST

San Miguel hits Asian targets

San Miguel, the Philippine food and beverage giant, yesterday said it had achieved its objective of reaching critical mass in strategic Asian markets, and that it had expanded operations in China with the establishment of sales offices and distribution networks in 16 cities.

The group, which is facing increased domestic competition from Asia Brewery, owned by Mr Lucio Tan, the Chinese-Filipino tycoon, has been forced to concentrate on overseas markets through an aggressive $1.6bn expansion programme. Last year it opened two new breweries in China and one each in Indonesia and Hong Kong. Mr Andres Soriano, chairman and chief executive, said the group's overseas beer business had established "a critical mass of quality production capacity" in certain Asian markets and particularly China. It plans to extend its reach there to 36 cities within two years. *Justin Marozzi, Manila*

Lane Crawford chief quits

Mr John Lees has resigned as chairman of Lane Crawford International, the troubled Hong Kong department store group, with effect from yesterday. His departure was attributed to age.

However, Mr Lees, aged 67, remains chairman of two other groups within Wheelock, which owns 71 per cent of Lane Crawford. Lane Crawford's latest interim results showed a net loss of HK$90.8m (US$11.7m) for the six months to September 30. The figures reflect the group's move into Singapore and the opening of stores pitched at younger customers in Hong Kong. Both the Singapore store and the Lane Crawford Express stores were shut down last year, resulting in the write-off of assets.

The new chairman will be Mr Gonzaga Li, who is already chairman of Wheelock itself, and chairman and chief executive of The Wharf (Holdings), which is 46 per cent owned by Wheelock. *Louise Lucas, Hong Kong*

Sales up at Indian Oil

Indian Oil Corp, India's only Fortune 500 company, lifted its sales of petroleum products in the year to March 31 by 5.2 per cent to 41.74m tonnes.

IOC said its six refineries processed petroleum products equivalent to more than 100 per cent of their rated capacity for the fourth consecutive year. The refineries processed more than 25.1m tonnes in 1996-97 at a capacity utilisation rate of 102.3 per cent. No comparative figure was given. IOC said it had projects under way worth more than Rs100bn ($2.78bn) which were likely to be completed in the next two years. It said it also had "identified" several new projects valued at more than Rs300bn. *Tony Tassell, Bombay*

Sunway City buys theme park

Sunway City, a Malaysian property group, has emerged as the buyer of Australia's "Wonderland" amusement park, for around A$50m (US$39.1m). The park is located on 218.8 hectares of land in Sydney's western suburbs. It is the second Australian theme park to attract Asian interest recently. Last year, the "Dreamworld" amusement venture in Queensland was bought by Mr Kua Phek Long, a Singapore businessman, for around A$85m. *Nikki Tait, Sydney*

Comments and press releases about international companies coverage can be sent by e-mail to international.companies@ft.com

COMPANIES AND FINANCE: UK

Amstrad sells digital mobile phone business for £92m

Bosch acquires Dancall

By Paul Taylor

Robert Bosch, the leading German car component and electronics group, has paid £92m ($146.3m) to acquire the Dancall digital mobile telephone handset business from Amstrad, the UK personal computer and electronics group.

Bosch said it planned to use Dancall, which is based in Aalborg in northern Denmark, as a springboard for a push into the fast expanding GSM digital telephone industry.

Mr Andreas Nobis, a board member, said the deal gave Bosch "immediate access to the latest GSM technology" and would enable the group, "to combine Dancall's development expertise with Bosch's brand name, international distribution capacity and resources."

He said the German group planned to retain the whole of Dancall's 600-strong workforce and to expand Dancall's manufacturing capacity from the current level of 1m telephones a year to "more than two million a year."

For the UK group, which has undergone a wholesale restructuring over the past few years, the deal marks a further abrupt change in direction.

Although it had only recently begun to make a profit following a £6.8m loss on sales of £100m in the year to June 30, Dancall was seen as central to Amstrad's effort to refocus away from the commodity consumer electronics business and towards higher growth technology operations.

The surprise deal sent Amstrad's share price up 26p to 226p, its highest level this year.

Bosch executives rejected suggestions that the German group was overpaying for a business which Amstrad bought out of receivership for £6.3m in September 1993.

However Amstrad, which has since invested about £10m in Dancall, noted that the sale price "shows nearly six times return on investment in three and a half years."

Amstrad, which already had cash balances of £112.4m at the year-end, said it was considering ways "to return value to shareholders through a tax efficient mechanism." Analysts speculated that this could take the form of a special dividend payment.

Yesterday, Mr Alan Sugar, Amstrad chairman, said "the virtues and potential of Dancall have never been fully appreciated by the shareholders or the financial institutions, principally due to the lack of profits."

He said Amstrad had taken Dancall "as far as it could."

Pressac makes $14m US buy

By Roger Taylor

Pressac Holdings, the electronic components manufacturer, has made its second acquisition this year with the purchase of Kaumagraph, a US supplier of dashboard displays for cars.

It is paying $14.4m cash for the company, whose customers include General Motors. It had sales of $13.4m for the year to June 1996 and pre-tax profits of $1.9m after stripping out costs of the head office, which is to be closed.

Pressac, which also announced a 28 per cent jump in interim pre-tax profits, only recently completed the purchase of Italamec, an Italian electrical components manufacturer, for £22.1m. That was funded by a £21m rights issue at 180p in December. The shares yesterday closed up 3p at 230½p.

Analysts said Kaumagraph fitted neatly with Pressac's existing businesses and would give it a strong manufacturing base in the US. Pressac will be left with net debt of about £12m and gearing of 50 per cent.

Mr Geoff White, chief executive, said he was also looking at opportunities to expand into Latin America and hoped to make a further announcement later this year.

Pressac's profits rise from £2.28m to £2.91m ($4.62m) in the six months to January 31 was fuelled by a 15 per cent increase in turnover to £36.1m, reflecting strong demand from car manufacturers. The automotive division saw a 22 per cent increase in turnover despite a flat car market in the US and sluggish growth in Europe.

Earnings per share rose to 4.98p, up 30 per cent on an adjusted figure for last year of 3.82p. The interim dividend is raised 11 per cent to 1.1p (0.99p).

Trevor Humphries
Geoff White is now planning to expand into Latin America

RESULTS

		Turnover (£m)		Pre-tax profit (£m)		EPS (p)		Dividends: Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
Bourne End	Yr to Dec 31	15.2■	(15.6■)	0.666♠	(1.04♠)	0.78	(1.45)	0.65	July 3	0.65	1.2	1.2
Dentmaster Φ	6 mths to Dec 31 ‡	1.83	(2.63)	0.129	(0.304)	0.07†	(0.15)	-	-	-	-	-
Gaskell	Yr to Dec 31	43.7	(39.1)	1.21	(0.807)	16.4	(11.4)	3.2	July 4	3	4.8	4.5
Hit EntertainmentΦ	Yr to Dec 31	11	(9.4)	1.01	(0.527)	5.95†	(3.43)	0.5	June 11	-	0.5	-
Premiere	Yr to Dec 31 §§	25.8	(20)	0.792	(0.408)	16.9†	(13)	4	June 2	-	4	-
Pressac	6 mths to Jan 31	36.1	(31.2)	2.92	(2.28)	4.98	(3.82)	1.1	May 23	0.99	-	3.9
Reunion Mining	Yr to Dec 31	3.19	(-)	3.67L	(1.9L)	10.6L	(6L)	-	-	-	-	-
SCI Φ	6 mths to Dec 31 ☆	2.37	(2.03)	0.504	(1.59L♠)	3.54	(15.67L)	-	-	-	-	-
SEA Multimedia Φ$	Yr to Dec 31	3.94	(0.73)	0.713	(0.343L)	3.3	(1.87L)	-	-	-	-	-
Telemetrix	Yr to Dec 31	130.3	(159.6)	6.93L♠	(10.4♠)	4.2L	(5.3)	1.45	July 1	1.45	1.45	1.45

Investment Trusts		NAV (p)		Attributable Earnings (£m)		EPS (p)		Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
M Currie Pacific	Yr to Feb 28	174.2	(167.7)	0.601	(0.788)	1.47	(1.92)	0.9	June 28	0.9	0.9	0.9
Radiotrust	Yr to Jan 31	128.8	(105.4)	0.215	(0.095)	2.5	(1.1)	2	June 30	0.6	2	0.6

Earnings shown basic. Dividends shown net. Figures in brackets are for corresponding period. ■Rental income. ♠After exceptional charge. †On increased capital. ΦAim stock. ‡Comparatives for 12 months to June 30 1996. §§Pro forma. ☆Comparatives for 16 months to June 30 1996. $US currency.

COMPANIES AND FINANCE: UK

Deal announced with Mannesmann Autocom

Trafficmaster set to move into Germany

By Haig Simonian, Motor Industry Correspondent

Trafficmaster, the traffic information provider, will today announce it is extending its system to Germany.

The agreement with Mannesmann Autocom, the German telecommunications group, marks the first step in Trafficmaster's drive to extend its patented system into continental Europe.

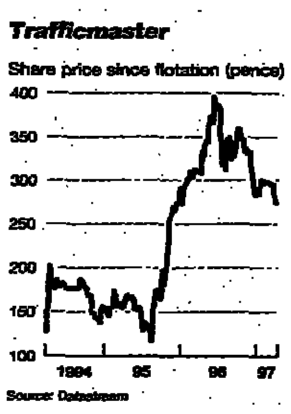
Mr David Martell, co-founder and chief executive, said advanced talks with groups in France and the Netherlands were being held with a view to starting operations in the Paris region in early 1998 and in the Netherlands about six months later.

He declined to forecast the impact of the German deal on Trafficmaster, which reports 1996 results next week. Analysts expect the company, which was floated in 1994 and lost £2.4m ($1.5m) on sales of £2.55m in 1995, to announce a similar loss on substantially higher turnover in 1996. Mr Martell said that he expected the first profit this year.

The deal with Mannesmann Autocom, the telecommunications subsidiary of the German industrial group, should lift sales through a 12-year royalty on revenues for the German system, which has been on trial for the past 18 months.

Trafficmaster

Share price since flotation (pence)



Source: Datastream

Trafficmaster will also receive a fee for each traffic sensor site in Germany. Joint venture partners Mannesmann Autocom and T-Mobil, a subsidiary of Deutsche Telekom, expect to cover 4,000km of autobahn this year and a further 4,000km by next summer, comprising about 75 per cent of the motorway network.

The German system will also allow Trafficmaster to start selling its in-car hardware to German motorists and carmakers.

Although the bulk of UK sales have been in the aftermarket, the company last September reached agreement with Vauxhall, part of General Motors, to install its voice-based system as original equipment on the Vectra range.

Mr Martell said extending the network to continental Europe would strengthen Trafficmaster's hand in talks with other carmakers.

One early deal in Germany could be with Opel, the German GM subsidiary, to install Trafficmaster hardware on German Vectras. In the UK, Mr Martell predicted Trafficmaster would sign up "at least two other major car makers by October".

The company is investing £10m to install sensors on UK trunk roads by next summer.

M&S to move into mail order clothing

By Christopher Price

Marks and Spencer, the UK's favourite clothes retailer, is to expand into the mail order clothing business following similar moves by its rivals.

M&S said it intended to introduce a catalogue in spring next year, with regional trials featuring selected ranges of clothes before a definitive version is published.

The expansion of its mail order operations follows the success of Next, whose Next Directory now accounts for about a third of sales, and Burton Group, which has bought the Racing Green home shopping business.

It also comes at a time when interest in mail order has been heightened by the sale of the Freemans catalogue business by Sears.

M&S already sells £85m ($135m) of goods a year in home furnishings, wine, hampers and flowers through mail order. It recently launched a business clothing catalogue and is also planning a schoolwear version for later this year.

The company refused to comment on how much the venture would cost, or how many jobs might be created. However, analysts warned that the cost of launching a full-scale operation, particularly if it targeted the 5m M&S account holders, could be huge. They also warned of "cannibalisation", with existing customers choosing to shop at home rather than creating new business.

But there was also support for the move, particularly in the tentative method of introduction being employed by the company. "It's very predictable, very low risk and will probably be very successful," said Mr Richard Hyman of the retail research consultancy, Verdict.

M&S is the UK's biggest clothing group, with a 15 per cent share of the market, nearly double that of its nearest rival, Burton.

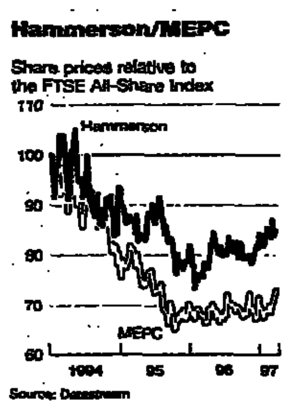
LEX COMMENT

MEPC

The last time there was a bid for a big UK property group, Hammerson was the target. But after four years of surgery from Mr Ron Spinney, chief executive, it has now turned aggressor. And it has picked a suitable target, even though its advances have so far been rebuffed. MEPC's management has been accident-prone, with mishaps from earthquake-hit US properties to recession-hit UK developments. Its debt financing is the costliest of the big property groups, its investment portfolio the most scattered, and its strategy has been rather fluid. It has therefore acquired several unhappy shareholders. Nonetheless, Hammerson will struggle to succeed. For starters, managements are rarely keen on proposals which damage their careers, so MEPC has unsurprisingly walked away from a friendly deal. Furthermore, Hammerson can neither offer a premium to MEPC shareholders – MEPC already trades at a premium to its net asset value – nor point to any obvious value that could be added from sticking the two together. There would be a few million pounds of cost savings, but they would have to focus on "management synergies", which are rather less compelling.

Hammerson/MEPC

Share prices relative to the FTSE All-Share Index



Source: Datastream

Hammerson's only hope is to persuade enough big MEPC shareholders to force MEPC back into negotiations. And there should be support for the argument that Mr Spinney could profitably reshape a messy MEPC portfolio as he did with old Hammerson. But that looks less likely to shake off shareholder lethargy than a bid premium.

Shell to answer ethics queries from investors

By Robert Corzine

Royal Dutch/Shell, the Anglo-Dutch oil group, is in the final stages of deciding its response to a special resolution from shareholders demanding an improvement in its environmental practices and business ethics.

Shell Transport & Trading, the London-based arm, will disclose how it intends to deal with the resolution next week, when it publishes its annual report.

The resolution is due to be presented to Shell's annual meeting in London on May 14.

Shell has accepted that the resolution is an "unusual" challenge, given that it has the backing of a significant minority of shareholders.

It stems largely from concern over Shell's handling of the Brent Spar incident and its operations in Nigeria, and is supported by Pirc, the investment consultancy. Pirc said its clients held 12 per cent of Shell's shares.

The consultancy is keen to see whether Shell's statement on environmental policy, due to be published towards the end of this month, will meet some of the requirements.

The resolution calls for "effective internal procedures for the implementation and monitoring of such policies".

Pirc wants Shell's to require its various national operating companies to prepare detailed reports on their compliance with environmental and corporate responsibility standards.

Shell has said: "There would be no point in having a global vision if there were no clear cut lines of reporting or controls." It is thought that the resolution's backers might agree to drop it if Shell's environment report adequately addresses their concerns.

NPI rebuffed AMP approach

By Christopher Brown-Humes

National Provident Institution, the life insurer, said that Australian Mutual Provident had expressed a "strong" interest in acquiring it, but the approach had been rebuffed because it wanted to stay mutual.

"We are not for sale. We think we are doing very well for our members as we are," said Mr Ian Martin, NPI head of corporate affairs.

He said NPI had been approached by a number of potential bidders – including many of the companies who joined the auction for Scottish Amicable, the mutual which last week agreed to be acquired by Prudential Corporation for £2.8bn. AMP was one of the disappointed suitors.

Mr Martin said NPI reviewed its strategy every year, based on what it considered best for policyholders, with the next such meeting scheduled for May. It has appointed Goldman Sachs as an adviser, but not with a view to an auction or flotation. Mr Martin said there had been no contact with AMP for several weeks, and there had been no formal offer from it.

NPI has £10bn under management and 600,000 policyholders.

LEGAL NOTICES

BRANDEIS LIMITED

Pursuant to Section 175 of the Companies Act 1985 Brandeis Limited ("the Company") hereby gives notice that:

- The Company approved by written resolution on 27th March 1997 pursuant to Section 173 of the Companies Act 1985 a payment out of capital for the purpose of the purchase by the Company of 1,469,378 of its own ordinary shares of £1 each.
- The amount of the permissible capital payment for the shares in question is US $2,500,000.
- The statutory declaration of the directors and the auditors' report required by Section 173 of the Companies Act 1985 are available for inspection at 1 Minster Court, Mincing Lane, London EC3R 7TE.
- Any creditor of the Company may at any time prior to 7 May 1997 apply to the court under Section 176 of the Companies Act 1985 for an order prohibiting the payment.

Dated 2 April 1997

Denton Hall
Five Chancery Lane
London EC4A 1BU
Solicitors to Brandeis Limited

Prices for electricity determined for the purposes of the electricity pooling and settlement arrangements in England and Wales.

1/2 hour period ending	Provisional Prices for Trading on 02.04.97: Pool purchase price £/MWh	Final Prices for Trading on 08.03.97: Pool purchase price £/MWh	Pool selling price £/MWh
0030	11.83	22.71	23.80
0100	11.87	22.71	23.80
0130	12.00	33.00	34.09
0200	11.95	33.00	34.08
0230	13.16	22.71	23.80
0300	13.16	22.71	23.80
0330	13.16	18.27	19.37
0400	12.05	15.95	17.04
0430	12.05	15.95	17.04
0500	11.95	15.95	17.04
0530	11.65	11.69	11.69
0600	11.65	11.69	11.69
0630	11.65	19.60	20.70
0700	17.73	19.60	20.70
0730	23.00	22.41	23.50
0800	26.38	22.41	23.50
0830	24.39	25.32	26.42
0900	26.38	33.82	34.91
0930	30.48	57.47	58.57
1000	34.28	57.47	58.57
1030	50.95	57.47	58.57
1100	50.95	34.00	35.09
1130	50.95	34.00	35.09
1200	50.95	100.56	101.66
1230	34.28	100.56	101.66
1300	31.82	100.56	101.66
1330	26.38	44.12	45.22
1400	26.38	22.85	23.94
1430	26.38	22.85	23.94
1500	30.16	22.85	23.94
1530	30.16	22.85	23.94
1600	23.89	22.85	23.95
1630	23.89	31.58	32.68
1700	24.39	31.60	32.70
1730	24.39	32.18	33.29
1800	24.39	36.18	37.29
1830	24.39	44.94	46.10
1900	23.48	57.08	58.21
1930	23.00	58.59	59.13
2000	11.65	56.88	58.00
2030	24.39	32.14	33.24
2100	29.44	36.05	37.14
2130	30.59	30.17	31.26
2200	30.59	23.63	24.72
2230	30.58	21.75	22.84
2300	30.58	18.93	20.03
2330	22.10	18.93	20.03
2400	11.65	18.93	20.03

Prices are determined for every half-hour in each twenty-four hour period. Prices are in pounds per megawatt-hour, rounded to two decimal places. To convert prices to pence per kilowatt-hour the decimal point should be moved one place to the left, eg £16.89/MWh becomes 1.689p/kWh. Provision for the determination of pool prices is made in the Pooling and Settlement Agreement which govern the operation of the electricity pool in England and Wales. The Pool Purchase Price is the basis of the majority of payments made to generators in respect of electricity traded through the pool. The calculation of pool prices is a highly complex process the product of which is subject to revision or correction (and sometimes major alterations) until final pool prices are determined approximately twenty-four days after the day of trading. Accordingly, due to the possibility of their revision and/or correction, no reliance should be placed upon provisional pool prices for any day being the same as final pool prices for that day. Final pool prices are also capable of revision. Pool Selling Price is the price paid by purchasers of electricity under the pool trading arrangements. It is dependent upon the determination of Pool Purchase Price. Further information on pool prices is provided on behalf of the Pool by Energy Settlements and Information Services Limited. Anyone wishing to receive such information should telephone 0116 945 6789 between 8:30am and 5:15pm Monday to Friday.
©Energy Settlements and Information Services Limited

Europe falls despite recovery in US

GOVERNMENT BONDS

By Edward Luce in London and Lisa Bransten in New York

European government bond markets fell across the board yesterday in spite of the fact that US Treasuries recovered slightly from the losses seen in the previous two trading sessions.

Traders said the European markets were partly making up for the fact that they had been closed on Good Friday and Easter Monday and had been unable to mirror trans-atlantic fears that there might be further interest rate rises in the US later this year until yesterday.

"There's nothing specific happening in Europe to explain the bearish sentiment in every government bond market," said Mr Eric Fishwick, international economist at Nikko Europe in London.

"European markets are basically taking a negative cue from the US and look likely to continue to do so."

With interest rate futures pricing in a further 100 basis-point rise in the US Federal fund rate by the end of 1997, bond analysts predict a gloomy second quarter for the European markets.

More immediately, traders say that the markets are unlikely to show strong signs of life in the lead up to the US non-farm payroll data to be released on Friday. Economists say the knock-on effects of a rise in US employment by 200,000 or more could be severe.

"This is not 1994 but it would be foolish to expect the markets to do anything other than panic if the figures from the US are strong on Friday," said Mr David Brown, chief European economist at Bear Stearns in London. "Equally, if the data are weak the markets could rally: that is the type of situation we are in."

Italian and Spanish bonds suffered the most yesterday as investors fled the high-yielders for German bunds. Traders said bunds were likely to continue to outperform other European markets as investors board the "flight to quality".

The Italian 10-year BTP future fell by 1.04 to close at 123.89 in London. Spreads over equivalent German bunds widened slightly to close 194 basis points higher.

The market continued to respond unfavourably to the Italian mini-budget, describing the measures as "unsustainable".

"As long as the [Romano] Prodi government is unable to push through structural as opposed to one-off reforms it will be unable to win the backing of the markets," said Mr Brown.

"The government is basically being held hostage by the Refounded Communists. Even if the budget deficit falls to 3 per cent, there is no guarantee it won't rise back to 4 per cent of GDP in 1998."

The Spanish 10-year bono future fell by 1.32 to close at 110.08 in Barcelona.

The German bund future closed 0.57 lower at 99.44 in London.

UK gilts also fell, in response to widespread fears that US rates will rise by another 25 basis points at the next meeting of the US Federal Reserve on May 20.

"We expect US rates to rise in May and again in July," said Mr Philip Tyson, an international economist at HSBC Markets in London. "There is a real reluctance to chase gilt yields lower with market expectations as they are."

The spread on UK cash bonds closed almost flat at 184 basis points over bunds. Futures closed ⅝ down at 108$\frac{11}{32}$ in London.

French OATs also closed lower, although some economists were speculating that the Bank of France might decide to trim the intervention rate by 10 basis points on the back of weak economic data.

This would bring French short-term rates into line with German rates. OAT futures closed 0.82 lower at 127.44 on Matif.

US Treasury prices were modestly higher in early trading amid some signs that inflationary pressures on the US economy remain at bay.

Late in the morning in New York the benchmark 30-year Treasury was up ¼ to 94$\frac{13}{32}$, yielding 7.066 per cent, while at the short end of the maturity spectrum the two-year note was $\frac{1}{32}$ higher at 99$\frac{25}{32}$ to yield 6.385 per cent. The June 30-year bond future climbed $\frac{1}{32}$ to 107$\frac{11}{32}$.

Bond prices dropped immediately after the release of figures from the National Association of Purchasing Management, which showed a continued strengthening in the manufacturing sector.

The NAPM index of business activity rose to 55.0 in March from 53.1 in February and the employment index moved above 50 for the first time in two years.

However, bond market investors took some comfort from the fact that the index of prices paid fell to 50.9 from 55.1.

Mr Kevin Sluder, senior government bond trader at First Chicago Capital Markets said "a lot of negative expectations were already priced into the market", so the positive news from the prices component produced a small relief rally. Still, he added, the figures appeared to be quite strong.

Mr Ed Yardeni and Ms Debbie Johnson, analysts at Deutsche Morgan Grenfell in New York, said that the report was a sign of "the best of all worlds: purchasing managers report that activity is expanding at the fastest pace in over two years, with no sign of price pressures".

The market's attention now turns to Friday's release of figures on March employment levels.

Issuance slow after long Easter break

INTERNATIONAL BONDS

By Samer Iskandar

Syndicate managers, who were expecting a rise in primary market activity after the Easter long weekend, expressed disappointment yesterday at the slow pace of issuance.

"We were expecting activity to pick up after the FOMC meeting and the holiday," said one official at a bank in London. "Now that the rate rise is out of the way, the market is even more depressed by fears of another Fed tightening."

Issuance of dollar-denominated bonds was limited to maturities of three and four years.

"Investors do not want to reduce their exposure to the dollar, because they expect the currency to remain strong," said one banker. "But they are reducing the duration of portfolios, and sticking to shorter maturities [whose prices fall less when yields rise]."

SBC Warburg was the busiest house, lead-managing the session's two largest issues. The first was $300m of three-year notes for Abbey National.

The deal was priced to yield 12 basis points over US Treasuries, a level described as "tight, but not overly aggressive" by a rival bank.

"This is a natural follow-up to a similar issue by Abbey National launched in February," SBC Warburg said. "It is designed to tap the same investor base."

The February issue of three-year paper has seen its spread tighten to 2 basis points, from 14 points at launch.

SBC Warburg's second issue was $300m of four-year notes for the European Investment Bank.

Syndicate officials said the pricing of the bonds against three-year Treasuries disguised the fact that their yield was 9 basis points lower than the US yield curve.

One banker said the pricing was "surprisingly tight, given market conditions," but added that the "EIB always sells over time".

● It remained unclear yesterday whether a rumour that Brazil was considering so-called "parallel bonds" was an April Fool's day hoax. Parallel bonds are issued in European currencies that are expected to form the euro and become fungible into one large issue denominated in euros after European monetary union.

One syndicate official said: "Issuing parallel bonds does not make sense for a non-European borrower."

Another maintained that Brazil had asked banks to submit bids on the deal. "They are definitely looking at the possibility," he said. "Maybe it is the Brazilians playing a joke on the banks."

New international bond issues

Borrower	Amount m.	Coupon %	Price	Maturity	Fees %	Spread bp	Book-runner
US DOLLARS							
European Investment Bank	300	6.625	99.802R	Apr 2001	0.20R	flat(5⅞%-00)	SBC Warburg
Abbey National Treasury	300	6.75	99.87R	Apr 2000	0.20R	+12(5⅞%-00)	SBC Warburg
Spintab‡	100	(a)	100.0163	Mar 2000	0.08	-	Paribas Capital Markets
YEN							
Swedish Export Credit(b)★	25bn	4.00	100.00	Jul 1997	0.50	-	Sanyo/Tokyo Mitsubishi
Swedish Export Credit(c)★	10bn	4.00	100.00	Jul 1997	0.45	-	Kokusai Europe
Fannie Mae(d,f)★	19bn	5.50#	100.00	Apr 2000	1.50	-	Morgan Stanley Intl
RAND							
McDonald's Corp	250	15.00	101.675	Apr 2004	1.675	-	Merrill Lynch Intl

Final terms, non-callable unless stated. Yield spread (over relevant government bond) at launch supplied by lead manager. ★Unlisted. ‡ Floating-rate note. #Semi-annual coupon. R: fixed re-offer price; fees shown at re-offer level. a) 1-mth Libor flat. b) Redeemed in US$ if FX stays above 114.49Y/$. c) Redeemed in US$ if FX hits 114.48Y/$ or lower. d) Redeemed in US$. f) Long 1st coupon.

CAPITAL MARKETS DIGEST

Saudi bank to set up UK-listed fund

The Saudi Arabian Monetary Agency (SAMA), the central bank, has authorised Saudi American Bank (Samba), which is 30 per cent owned by Citibank, to set up a London-listed closed-end fund to attract foreign investors into the Saudi market. The move represents the first tentative step by Saudi Arabia to open the country's embryonic capital markets to foreigners.

According to Sama, "Saudi Arabian Investment Fund (SAIF Ltd) [the London-listed company] will invest exclusively in the units of SAIF KSA (Kingdom of Saudi Arabia), which will in turn invest primarily in the shares of Saudi companies."

Bankers in Riyadh said the fund's size was likely to be around $250m, allowing it to test the scale of overseas investor interest in the Saudi market without exposing Saudi Arabia to the risk of speculative trading. The London listing and the opening of subscriptions to the fund were expected to take about three months.

Mr Ali Al-Shihabi, a director of Saudi-Hollandi (Saudi-Dutch) Bank, said: "Other joint venture banks will follow suit. The SAIF listing will open up a capital market the size of Israel's, but at levels which are currently undervalued. This and other funds will also bring foreign expertise and liquidity into the Saudi market."

Other bankers pointed out that although Saudi companies comprise 10 of the top 30 Middle East companies and market capitalisation is larger than Israel's – some $40bn–$45bn compared with Israel's $30bn – there is no stock exchange in Saudi Arabia. Share dealing, which is done by telephone through a few brokers and local banks, is neither regulated nor transparent.

Until now share trading has been restricted to Saudi nationals, with a few companies, excluding banks, open to citizens of five other Gulf states. The Saudi government has a controlling share in four of the top 10 quoted non-bank companies. Trading volume last year was less than $7bn, about one-third as much as in neighbouring Kuwait, whose market capitalisation is only half that of Saudi Arabia. The market's performance, however, has been steady. The national Saudi share index rose almost 12 per cent last year and has increased some 7 per cent so far this year.

Robin Allen, Dubai

Record month for DTB

The DTB, Germany's futures and options exchange, set a record in March with more than 9m contracts traded, up from the previous record of 8.8m in January.

Total volume for the first quarter was 27.41m contracts, roughly 20 per cent more than in the first quarter of 1996. This compares with roughly 50m contracts traded on Liffe, the London derivatives exchange, in the past three months and 17m lots exchanged on Matif, the Paris-based market.

The Schatz future on two-year German government debt, launched by the DTB on March 7, saw 207,714 contracts exchanged.

Samer Iskandar

WORLD BOND PRICES

BENCHMARK GOVERNMENT BONDS

		Coupon	Red Date	Price	Day's change	Yield	Week ago	Month ago
Australia		6.750	11/06	91.5870	+0.070	8.02	8.02	7.26
Austria		5.625	01/07	97.7500	−0.530	5.93	5.86	5.49
Belgium		6.250	03/07	100.8500	−0.830	6.13	6.07	5.53
Canada *		7.000	12/06	101.4100	−0.970	6.80	6.62	6.17
Denmark		8.000	03/06	108.0200	−0.640	6.77	6.73	6.14
France	BTAN	4.750	03/02	102.6355	-	4.90	4.74	4.28
	OAT	5.500	04/07	97.1000	−0.490	5.89	5.74	5.31
Germany Bund		6.000	01/07	99.9600	−0.530	6.00	5.93	5.48
Ireland		8.000	08/06	108.9100	−0.240	6.96	6.93	6.37
Italy		6.750	02/07	91.6800	−1.150	7.99†	7.56	7.18
Japan	No 143	6.300	09/01	120.1905	−0.160	1.48	1.40	1.37
	No 182	3.000	09/05	105.2980	+0.280	2.26	2.31	2.40
Netherlands		5.750	02/07	99.1500	−0.610	5.86	5.81	5.29
Portugal		9.500	02/06	115.3500	−0.950	7.11	7.00	6.57
Spain		7.350	03/07	100.3600	−1.300	7.29	7.14	6.74
Sweden		8.000	08/07	103.7381	−0.690	7.46	7.36	6.65
UK Gilts		7.000	06/02	98–05	−10/32	7.43	7.25	6.68
		7.250	12/07	95–23	−16/32	7.71	7.59	7.09
		9.000	10/08	109–03	−18/32	7.79	7.67	7.18
US Treasury *		6.250	02/07	95–15	−4/32	6.89	6.73	6.28
		6.625	02/27	94–07	−16/32	7.09	6.95	6.55
ECU (French Govt)		7.000	04/06	104.7300	−0.380	6.30	6.27	5.66

London closing, *New York mid-day. Yields: Local market standard.
† Gross (including withholding tax at 12.5 per cent payable by nonresidents)
Prices: US, UK in 32nds, others in decimal. Source: MMS International

US INTEREST RATES

Latest		Treasury Bills and Bond Yields			
		One month	-	Two year	5.44
Prime rate	8½	Two month	-	Three year	6.59
Broker loan rate	7	Three month	5.32	Five year	6.77
Fed.funds	5⅞	Six month	5.55	10-year	6.92
Fed.funds at intervention	-	One year	6.02	30-year	7.12

BOND FUTURES AND OPTIONS

France

■ NOTIONAL FRENCH BOND FUTURES (MATIF) FFr500,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	127.80	127.44	−0.82	127.76	127.34	101,917	152,778
Sep	126.00	125.82	−0.82	126.00	125.78	443	4,111
Dec	95.72	95.54	−0.82	95.72	95.72	2	–

■ LONG TERM FRENCH BOND OPTIONS (MATIF)

Strike Price	CALLS May	CALLS Jun	CALLS Sep	PUTS May	PUTS Jun	PUTS Sep
127	0.95	1.33	1.13	0.51	0.89	2.29
128	0.42	0.81	0.78	0.97	1.36	2.93
129	0.14	0.44	0.51	1.70	1.99	3.65
130	0.03	0.21	0.33	2.58	2.76	-
131	0.01	0.10	0.21	3.56	3.64	-

Est. vol. total. Calls 11,542 Puts 16,518. Previous day's open int., Calls 113,165 Puts 123,169.

Germany

■ NOTIONAL GERMAN BUND FUTURES (LIFFE)* DM250,000 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	99.60	99.44	-0.57	99.70	99.26	157583	246891
Sep	-	98.51	-0.57	-	-	0	2223

■ BUND FUTURES OPTIONS (LIFFE) DM250,000 points of 100%

Strike Price	CALLS May	CALLS Jun	CALLS Jul	CALLS Sep	PUTS May	PUTS Jun	PUTS Jul	PUTS Sep
9900	0.88	1.17	0.87	1.19	0.44	0.73	1.36	1.68
9950	0.58	0.88	0.67	0.97	0.64	0.94	1.66	1.96
10000	0.35	0.64	0.50	0.78	0.91	1.20	1.99	2.27

Est. vol. total, Calls 22788 Puts 17384. Previous day's open int., Calls 192243 Puts 213813

Italy

■ NOTIONAL ITALIAN GOVT. BOND (BTP) FUTURES (LIFFE)* Lira 200m 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	124.52	123.89	-1.04	124.53	123.70	46802	108435
Sep	123.80	123.94	-1.04	123.80	123.80	28	3078

■ ITALIAN GOVT. BOND (BTP) FUTURES OPTIONS (LIFFE) Lira200m 100ths of 100%

Strike Price	CALLS Jun	CALLS Sep	PUTS Jun	PUTS Sep
12350	1.83	2.84	1.44	2.40
12400	1.55	2.57	1.66	2.63
12450	1.29	2.30	1.90	2.86

Est. vol. total, Calls 2804 Puts 2852. Previous day's open int., Calls 96040 Puts 104210

Spain

■ NOTIONAL SPANISH BOND FUTURES (MEFF)

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	110.40	110.08	-0.51	110.55	109.85	76,427	72,098
Sep	–	109.29	-0.39	–	–	–	–

UK

■ NOTIONAL UK GILT FUTURES (LIFFE)* £50,000 32nds of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	108-19	108-11	-0-20	108-19	108-05	55080	178122
Sep	108-00	108-00	-0-18	108-00	108-00	20	0

■ LONG GILT FUTURES OPTIONS (LIFFE) £50,000 64ths of 100%

Strike Price	CALLS May	CALLS Jun	CALLS Jul	CALLS Sep	PUTS May	PUTS Jun	PUTS Jul	PUTS Sep
108	1-00	1-31	1-43	2-11	0-42	1-09	1-43	2-11
109	0-34	0-63	1-15	1-48	1-12	1-41	2-15	2-46
110	0-16	0-39	0-56	1-21	1-58	2-17	2-56	3-21

Est. vol. total, Calls 549 Puts 795. Previous day's open int., Calls 57096 Puts 26236

Ecu

■ ECU BOND FUTURES (MATIF) ECU100,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	93.40	93.04	-0.82	93.40	92.96	717	5,600

US

■ US TREASURY BOND FUTURES (CBT) $100,000 32nds of 100%

	Open	Latest	Change	High	Low	Est. vol.	Open int.
Jun	107–09	107–03	–0–04	107–14	107–03	228,195	429,223
Sep	106–24	106–20	–0–05	106–28	106–20	342	32,820
Dec	–	106–16	–	–	106–13	66	5,521

Japan

■ NOTIONAL LONG TERM JAPANESE GOVT. BOND FUTURES (LIFFE) Y100m 100ths of 100%

	Open	Close	Change	High	Low	Est. vol	Open int.
Jun	125.96	-	-	125.96	125.70	1977	n/a
Sep	124.57	-	-	124.57	124.57	24	n/a

* LIFFE futures also traded on APT. All Open interest figs. are for previous day.

FTSE Actuaries Govt. Securities — UK Indices

Price Indices UK Gilts	Tue Apr 1	Day's change %	Thu Mar 27	Accrued interest	xd adj. ytd		Low coupon yield Apr 1	Low Mar 27	Low Yr. ago	Medium coupon yield Apr 1	Medium Mar 27	Medium Yr. ago	High coupon yield Apr 1	High Mar 27	High Yr. ago
1 Up to 5 years (19)	119.36	−0.17	119.56	2.07	3.40	5 yrs	7.48	7.39	7.52	7.53	7.44	7.55	7.57	7.48	7.65
2 5-15 years (20)	148.19	−0.51	148.94	3.20	2.23	15 yrs	7.82	7.74	8.22	7.83	7.75	8.23	7.76	7.63	8.33
3 Over 15 years (7)	167.35	−0.64	168.43	4.33	3.16	20 yrs	7.88	7.79	8.30	7.85	7.78	8.29	7.76	7.64	8.38
4 Irredeemables (5)	191.69	−1.44	194.49	3.49	2.37	Irred.†	7.94	7.82	8.36						
5 All stocks (51)	142.57	−0.42	143.18	2.99	2.92										

Index-linked							Inflation 5% Apr 1	Mar 27	Yr. ago	Inflation 10% Apr 1	Mar 27	Yr. ago
6 Up to 5 years (2)	203.20	−0.08	203.36	0.85	2.16	Up to 5 yrs	3.37	3.34	2.98	2.65	2.62	1.62
7 Over 5 years (10)	195.12	−0.27	195.65	1.45	1.81	Over 5 yrs	3.62	3.60	3.73	3.42	3.40	3.53
8 All stocks (12)	194.92	−0.25	195.40	1.38	1.83							

Average gross redemption yields are shown above. Coupon Bands: Low: 0%-7¾%; Medium: 8%-10¾%; High: 11% and over. † Flat yield. ytd Year to date.

FT Fixed Interest Indices

	Apr 1	Mar 27	Mar 26	Mar 25	Mar 24	Yr ago	High*	Low*
Govt. Secs. (UK)	93.40	93.63	93.92	94.00	94.11	92.29	96.62	93.31
Fixed Interest	117.22	117.85	117.59	117.65	117.69	111.43	120.16	115.32

Gilt Edged Activity Indices

	Mar 27	Mar 26	Mar 25	Mar 24	Mar 21
Gilt Edged bargains	NA	NA	96.7	84.5	84.5
5-day average	NA	NA	108.3	116.6	116.6

 * for 1997. Government Securities high since compilation: 127.40 (09/01/35), low 49.18 (03/01/75). Fixed Interest high since compilation: 133.87 (21/01/94), low 50.53 (03/01/75). Basis 100: Government Securities 15/10/26 and Fixed Interest 1928. SE activity indices rebased 1974.

UK GILTS PRICES

	Notes	Yield Int	Yield Red	Price £	+ or –	52 week High	52 week Low
Shorts" (Lives up to Five Years)							
Treas Cnv 7pc 1997‡‡		6.98	6.28	100⅞	-1/16	101 3/16	100 1/16
Treas 8¾pc 1997‡‡		8.67	6.23	100 29/32	-1/16	107 9/16	100 29/32
Exch 15pc 1997		14.32	6.30	104¾	-3/32	114⅞	102 27/32
Exch 9¾pc 1998		9.52	6.55	102⅞	-3/16	106 11/16	100 5/16
Treas 7¼pc 1998‡‡		7.21	6.65	100 19/32	-1/16	103 13/16	100⅞
Treas 15½pc '98‡‡		13.84	6.88	111 31/32	-3/32	122 13/16	111 31/32
Exch 12pc 1998		11.14	6.94	107 11/16	-3/32	114 3/16	107⅝
Treas 9½pc 1999‡‡		9.12	7.00	104¼	-1/16	108¼	97 13/16
Treas Flg Rate 1999‡‡		-	-	100 3/16	—	100 3/16	99⅞
Exch 12¼pc 1999		11.19	7.09	109⅞	-⅛	116¾	109¾
Treas 10½pc 1999		9.84	7.06	106 21/32	-⅛	111 13/16	106 13/32
Treas 6pc 1999‡‡		6.14	7.06	97¾	-3/32	99¼	96⅛
Conversion 10¼pc 1999		9.56	7.21	107 3/16	-3/32	118 13/16	107⅛
Conv 9pc 2000‡‡		8.62	7.28	104⅜	-⅛	108 3/16	103 13/16
Treas 13pc 2000		11.19	7.35	116 3/16	-⅛	123 11/16	116 3/16
Treas 14pc 1998-1		12.99	6.75	107 13/16	-1/16	116 11/16	107 13/16
Treas 8pc 2000‡‡		7.84	7.34	102 1/16	-⅛	104 11/16	101⅝
Treas Flg Rate 2001		5.67	-	100 11/16	—	100 3/16	99¾
Treas 10pc 2001		9.22	7.43	108½	-3/16	113⅛	106 29/32
Treas 7pc 2001‡‡		7.13	7.44	98⅛	-⅛	101⅛	96 13/16
Five to Fifteen Years							
Treas 7pc 2002‡‡		7.14	7.43	98 1/16	-⅛	101 3/16	97 13/16
Treas 9¾pc 2002		8.98	7.56	109½	-⅛	122¼	108⅞
Treas 8pc 2003‡‡		7.84	7.55	102 1/16	-⅛	105 13/16	100 1/16
Treas 10pc 2003		8.94	7.61	111⅞	-⅛	116 3/16	110⅝
Treas 11½pc 2001-4		10.12	7.43	113 11/16	-⅛	121⅝	113 13/16
Funding 3½pc 1999-4		4.19	6.41	83 11/16	-1/16	86 13/16	79¼
Conversion 9½pc 2004		8.60	7.64	110 13/16	-⅛	114 13/16	107 13/16
Treas 6¾pc 2004‡‡		7.10	7.61	95 1/16	-⅛	98 11/16	91 13/16
Conv 9½pc 2005		8.69	7.70	110 13/16	-⅛	122 13/16	108 1/16
Treas 12½pc 2003-5		10.91	7.63	124 13/16	-⅛	130 13/16	123 13/16
Treas 8½pc 2005‡‡		8.10	7.69	104 13/16	-½	109⅝	101⅞
Treas 7½pc 2006‡‡		7.61	7.71	98½	-1/16	103⅞	94 13/16
Treas 7¾pc 2006‡‡		7.76	7.75	99 13/16	-⅛	107¼	96 3/16
Treas 8pc 2002-6‡‡		7.97	7.72	100 11/16xd	-1	104⅞	98⅝
Treas 11¾pc 2003-7		9.87	7.82	119xd	-½	124 3/16	115⅞
Treas 8½pc 2007‡‡		8.08	7.75	105 1/16	-⅛	110 13/16	101 3/16
Treas 7 1/4pc 2007‡‡		7.50	7.70	96 11/16	-⅛	102 13/16	95⅝
Treas 9pc 2008‡‡		8.25	7.78	109 1/16	-⅛	114 13/16	103 13/16
Treas 8pc 2009		7.90	7.82	101 3/16	-1 1/16	106 13/16	97
Treas 6 1/4pc 2010‡‡		7.21	7.85	86 11/16	-⅛	91½	81 13/16
Conv 9pc Ln 2011‡‡		8.20	7.84	109 13/16	-⅛	116 13/16	104 13/16
Over Fifteen Years							
Treas 9pc 2012‡‡		8.17	7.84	110⅛	-¼	116 3/16	104⅞
Treas 5½pc 2008-12‡‡		6.78	7.61	81 3/16	-⅛	85 13/16	75⅝
Treas 8pc 2013‡‡		7.90	7.84	101 3/16xd	-⅛	107 3/16	95 13/16
Treas 7¾pc 2012-15‡‡		7.83	7.86	99 1/16	-¼	104 13/16	93 13/16
Treas 8pc 2015‡‡		7.87	7.82	101 13/16	-⅛	107 13/16	95 13/16
Treas 8¾pc 2017‡‡		8.04	7.87	108 13/16	-¼	115 13/16	102½
Treas 8pc 2021‡‡		7.95	7.81	100 13/16	-⅛	108 3/16	95 13/16
Undated							
Consols 4pc		8.03	-	49 13/16	-⅛	54 3/16	46⅝
War Loan 3½pc‡‡		7.92	-	44 3/16	-⅛	47 13/16	41 3/16
Conv 3½pc '61 Aft		5.72	-	61 7/16xd	-1 1/16	64 13/16	59 3/16
Treas 3pc '66 Aft		7.89	-	37 13/16xd	—	39⅞	34 3/16
Consols 2½pc		7.91	-	31 13/16xd	-⅛	34 3/16	29¼
Treas. 2½pc		7.94	-	31 13/16xd	-⅛	33 13/16	29⅛

Index-Linked (b)	Notes	Yield (1)	Yield (2)	Price £	+ or –	52 week High	52 week Low
4⅝pc '98‡‡	(135.6)	-	2.30	113 13/16	-1/16	114⅛	111 13/16
2½pc '01	(78.3)	2.80	3.42	185 3/16	-3/16	187 13/16	177 3/16
2½pc '03	(78.8)	3.05	3.50	181 3/16	-¼	184 3/16	173 3/16
4⅜pc '04‡‡	(135.6)	3.10	3.50	117 13/16	-3/16	120 3/16	113 13/16
2pc '06	(69.5)	3.23	3.54	190 13/16	-⅛	195 13/16	181¼
2½pc '09	(78.8)	3.33	3.58	171 3/16	-⅞	176 3/16	162 13/16
2½pc '11	(74.6)	3.37	3.60	177 13/16	-13/16	182 3/16	167 13/16
2½pc '13	(89.2)	3.42	3.61	148	-13/16	150 13/16	137⅝
2½pc '16	(81.6)	3.45	3.63	155 13/16	-½	161 3/16	148⅛
2½pc '20	(83.0)	3.52	3.67	149 13/16	-13/16	154 3/16	139¾
2½pc '24‡‡	(97.7)	3.53	3.67	128⅝	-½	128 13/16	115⅞
4⅛pc '30‡‡	(135.1)	3.53	3.67	121 3/16xd	-½	126⅝	114 3/16

Prospective real redemption rate on projected inflation of (1) 10% and (2) 5%. (b) Figures in parentheses show RPI base for indexing (ie 8 months prior to issue) and have been adjusted to reflect rebasing of RPI to 100 in February 1987. Conversion factor 3.945. RPI for July 1996: 152.4 and for February 1997: 155.0.

Other Fixed Interest

	Notes	Yield Int	Yield Red	Price £	+ or –	52 week High	52 week Low
Asian Dev 10⅛pc 2009		8.69	7.90	117 13/16	—	122⅛	111 13/16
B'ham 11½pc 2012		8.61	8.08	130½	—	132½	119½
Leeds 13½pc 2006		9.86	-	135½xd	—	137½	129
Liverpool 3½pc Irred		8.33	-	42xd	—	43	37½
LCC 3pc '20 Aft		8.33	-	36	—	38	32½
Manchester 11½pc 2007		9.16	7.98	125½xd	—	127½	117
Met. Wtr. 3pc 'B'		3.66	8.40	82	—	82	74
N'wide Anglia 3¾pc 2021		-	4.22	144⅞	—	147¾	133
4⅛pc IL 2024		-	4.34	138⅛	—	142 13/16	132
Utd Mex States 16½pc 2008		12.22	-	135	—	135½	122

● 'Tap' stock. ‡‡ Tax-free to non-residents on application. E Auction basis. xd Ex dividend. Closing mid-prices are shown in pounds per £100 nominal of stock. Prospective real Index-Linked redemption yields are calculated by HSBC Greenwell from Bank of England closing prices.

FT/ISMA INTERNATIONAL BOND SERVICE

Listed are the latest international bonds for which there is an adequate secondary market. Latest prices at 7:00 pm on April 1

	Issued	Bid	Offer	Chg	Yield
U.S. DOLLAR STRAIGHTS					
Abbey Natl Treasury 6½ 03	1000	96¾	97	-⅛	7.17
ABN Amro Bank 7¼ 05	1000	99	99¼	-⅛	7.55
African Dev Bk 7⅜ 23	500	98	98¼	-⅛	7.74
Alberta Province 7⅝ 98	1000	101½	101⅝		6.56
Asian Dev Bank 6¼ 05	750	94½	94¾	-⅛	7.24
Austria 8½ 00	400	104⅛	104⅜	-⅛	6.82
Baden-Wuert L-Fin 8⅛ 00	1000	103⅛	103¼	-⅛	6.86
Bancomext 7¼ 04	1000	91⅝	92⅛	-⅝	9.11
Bank Ned Gemeenten 7 99	1000	100⅝	100¾	-⅛	6.68
Bayer Vereinsbk 8⅛ 00	500	103⅛	103¼	-⅛	6.86
Belgium 5½ 03	1000	92⅛	92⅜	-¼	7.02
British Columbia 7¾ 02	500	102⅝	102⅞	-¼	7.12
British Gas 0 21	1500	14⅝	14¾	-⅛	8.13
Canada 6⅜ 05	1500	95⅝	95¾	-⅛	7.20
Cheung Kong Fin 5½ 98	500	97⅝	97¾	-⅛	7.19
China 6½ 04	1000	94⅝	95⅛		7.85
Credit Foncier 9½ 99	300	104⅞	105⅛	-⅛	6.86
East Japan Railway 6⅝ 04	600	96¼	96½	-⅛	7.33
EIB 6 04	500	94⅝	95	-⅛	7.00
Ex-Im Bank Japan 8 02	500	103⅞	104⅛	-⅛	7.07
Export Dev Corp 9½ 98	150	103½	103⅞		6.52
Exxon Capital 0 04	1800	59⅝	60⅛	-⅛	7.02
Fed Home Loan 7⅛ 99	1500	101⅛	101¼	-⅛	6.69
Federal Natl Mort 7.40 04	1500	101⅞	102⅛	-⅜	7.19
Finland 7⅞ 04	1500	104¼	104½	-⅛	7.24
Ford Motor Credit 6¼ 02	1250	97⅜	97½	-⅛	7.27
General Mills 0 13	1000	25⅛	25⅞	-⅛	8.80
IN Finance 5¾ 98	650	97⅞	98		6.60
Inter-Amer Dev 6⅛ 06	1000	93⅛	93⅞	-⅝	7.21
Inter-Amer Dev 7½ 05	500	101½	101¾	-½	7.25
Intl Finance 5¼ 99	500	98	98¼	-⅛	6.47
Italy 6 03	2000	94¾	95	-⅜	7.14
Italy 6⅞ 23	3500	90	90⅛	-1	7.92
Japan Dev Bk 8⅜ 01	500	104⅝	104⅞	-⅛	6.96
Korea Elec Power 6⅜ 03	1350	94⅛	94½	-¼	7.65
Matsushita Elec 7¼ 02	1000	100¾	101	-¼	7.20
Mexico 9⅞ 07	1000	103⅝	104⅛	-1½	9.51
Minin Russia 9¼ 01	1000	97⅝	98	-⅛	10.14
Ontario 7⅜ 03	3000	101⅛	101½	-⅛	7.23
Ontario 7¾ 02	2000	103⅛	103¼	-⅛	7.14
Oster Kontrollbank 8½ 01	200	105⅛	105⅜	-⅛	6.96
Portugal 5¾ 03	1000	93½	93⅝	-⅛	7.13
Quebec Hydro 9¾ 98	150	104⅛	104¼		6.70
Quebec Prov 9 98	200	102⅛	102½	-⅛	6.76
SAS 10 99	200	105	105⅛		7.09
SNCF 9½ 98	150	103½	103⅞		6.56
Spain 6½ 99	1500	99⅝	99⅞	-⅛	6.59
Sweden 6½ 03	2000	98	98¼	-⅛	7.04
Tennessee Valley 6 00	1000	97¾	97⅞	-⅛	6.83
Tennessee Valley 6⅞ 05	2000	95⅝	95⅞	-⅛	7.21
Tokyo Elec Power 6⅛ 03	1000	96	96⅛	-⅛	6.92
United Kingdom 6¾ 01	2000	100⅛	100⅜	-⅛	6.70
United Kingdom 7¼ 02	3000	102	102⅛	-⅛	6.80
Walt Disney 6⅜ 01	1300	98⅛	98⅜		7.04
World Bank 6⅜ 05	1500	95¾	95⅞	-½	7.18
World Bank 8⅝ 99	1500	104⅞	105⅛	-⅛	6.34
DEUTSCHE MARK STRAIGHTS					
Austria 6½ 24	2000	95¼	95½	-1⅛	6.89
Baden-Wuert L-Finance 6 99	2000	104	104¼	-⅛	3.98
Credit Foncier 7¼ 03	2000	107⅞	107¼	-⅛	5.89
Denmark 6⅛ 98	2000	102⅝	102⅞		3.50
Depfa Finance 6½ 03	1500	103⅞	103⅞	-⅛	5.88
Deutsche Bk Fin 7½ 03	2000	109	109¼	-⅛	5.85
Deutsche Finance 5¾ 04	2500	101	101¼	-⅛	5.57
EEC 6½ 00	2800	106	106⅛		4.28
EIB 6¼ 00	1500	105⅛	105½		4.31
Finland 7½ 00	3000	108½	108⅝		4.23
KfW Intl Finance 6¼ 03	2250	103⅞	104	-⅛	5.52
LKB Baden-Wuert 6½ 08	2250	102⅛	102¼	-½	6.23
Norway 6⅛ 98	1500	102⅜	102⅞		3.51
Ontario 6¼ 04	1500	102¾	103⅛	-⅛	5.74

	Issued	Bid	Offer	Chg	Yield
Spain 7¼ 03	4000	109⅛	109¼	-¼	5.41
Volkswagen Intl Fin 7 03	1000	106⅞	107¼	-¼	5.64
World Bank 5⅞ 03	3000	102¾	103	-¼	5.36
World Bank 6⅛ 02	3000	104½	104½	-⅛	5.15
World Bank 7⅛ 05	3000	108⅛	108⅛	-¼	5.83
SWISS FRANC STRAIGHTS					
Asian Dev Bank 0 16	500	40½	41⅛	-½	4.91
Austria 4½ 00	1000	105¾	106	-⅛	2.40
Denmark 4¼ 99	1000	104¾	104⅞	-⅛	2.27
EIB 3¾ 99	1000	103¼	103½	-⅛	1.92
EIB 6¾ 04	300	115½	116¼	-½	4.29
Finland 7¼ 99	300	111⅞	112	-⅛	2.52
Helaba Finance 3¾ 00	1000	104⅜	104⅝	-⅛	2.51
Iceland 7⅜ 00	100	114¾	115½	-½	2.91
Inter Amer Dev 4¾ 03	600	107	107¾	-1	3.50
Ontario 6¼ 03	400	114⅝	115	-⅛	3.43
Quebec Hydro 5 08	100	103	104⅜		4.64
SNCF 7 04	450	120	120½	-¾	3.88
Sweden 4¼ 03	500	107	109	-1	3.50
World Bank 0 21	700	30½	31¼	-¼	4.93
World Bank 7 01	600	115¼	115⅝	-⅛	2.84
YEN STRAIGHTS					
Belgium 5 99	75000	110⅝	110⅝		1.09
Credit Foncier 4¾ 02	75000	113½	113¾	-⅛	2.05
EIB 6⅝ 00	100000	116	116½	+⅛	1.09
Ex-Im Bank Japan 4⅜ 03	105000	114	114¼		2.05
Fed Nat Mort 2 99	100000	102½	102⅝		1.07
Inter Amer Dev 7¼ 00	30000	118½	118¾		1.18
Italy 3½ 01	300000	107⅝	107⅞	-⅛	1.63
Italy 5 04	200000	118¼	118½		2.38
Japan Dev Bk 5 99	100000	109⅜	109⅝		1.03
Japan Dev Bk 6½ 01	120000	121¼	121⅜	-⅛	1.54
SNCF 6¾ 00	30000	116	116¼		1.14
Spain 5¾ 02	125000	119⅛	119¼		1.71
World Bank 5¼ 02	250000	117¼	117⅜	-⅛	1.63
OTHER STRAIGHTS					
EBRD 14¼ 98 R	250	99¼	100	+¼	15.13
World Bank 15 99 R	500	100⅛	100⅞	-⅛	14.78
Austria 6½ 99 Fl	1000	105¼	105⅜		3.84
PTT Nederland 6½ 06 Fl	1300	103⅛	103⅜	-⅛	6.03
Bell Canada 10⅞ 99 C$	150	110¼	110⅜	-¼	5.69
British Columbia 7¾ 03 C$	1250	106	106¼	-1	6.66
Canada Mtg & Hsg 8¾ 99 C$	1000	108¼	108⅜	-½	5.45
Elec de France 9¾ 99 C$	275	109¼	109½	-⅛	5.56
KfW Int Fin 10 01 C$	400	113	113⅜	-⅛	6.17
Nippon Tel Tel 10¼ 99 C$	200	110⅝	110⅞	-⅛	5.63
Ontario 8 03 C$	1500	107⅝	107⅞	-⅛	6.58
Ontario Hydro 9 02 C$	2000	111⅞	112	-⅞	6.45
Ontario Hydro 10⅞ 99 C$	500	110¼	110½	-⅛	5.32
Oster Kontrollbank 10¼ 99 C$	150	110	110⅜	-¼	5.52
Quebec Hydro 7 04 C$	1000	100½	100¾	-⅛	7.03
Quebec Prov 10½ 98 C$	200	108	108½	-⅝	5.31
Council Europe 9 01 Ecu	1100	114⅛	114½	-¼	5.45
Credit Foncier 8¾ 04 Ecu	1000	110½	110⅞	-⅛	6.45
Denmark 8½ 02 Ecu	1000	112½	113	-⅛	5.59
EC 6 00 Ecu	1100	103⅛	103⅝	-⅛	4.94
EIB 10 01 Ecu	1150	116⅞	116⅞	-⅛	5.15
Finland 8½ 07 Ecu	750	113⅝	114	-⅞	6.58
Italy 9¼ 11 Ecu	2500	120⅞	121⅛	-1⅛	6.87
Italy 10¾ 00 Ecu	1000	116½	115¾	-⅛	5.12
United Kingdom 9⅛ 01 Ecu	2750	113⅛	113½	-½	5.23
AIDC 10 99 A$	100	105⅛	105½	-¼	7.39
Comm Bk Australia 13¾ 99 A$	100	113¼	113⅝	-½	7.61
EIB 7¾ 99 A$	350	102½	103	+⅛	6.71
NSW Treasury Zero 0 20 A$	1000	14	14⅜	-⅛	8.57
R & I Bank 7¾ 03 A$	125	99¼	99¾		8.00
State Bk NSW 9 02 A$	300	103½	104	-½	8.16
Sth Aust Govt Fin 9 02 A$	150	103½	103⅞	-½	8.16
Unilever Australia 12 98 A$	150	105	105⅜	-⅛	6.75
Western Aust Treas 7⅝ 98 A$	100	101¼	101½	-⅛	6.77

	Issued	Bid	Offer	Chg	Yield
Abbey Natl Treasury 8 03 £	1000	99⅞	100	-⅛	8.03
British Land 8⅞ 23 £	150	98¾	99⅛	-⅝	9.20
Denmark 6¾ 98 £	800	99⅝	99⅝		7.03
Depfa Finance 7⅛ 03 £	500	95¼	95⅜	-⅛	8.07
EIB 8 03 £	1000	101	101⅛	-⅛	7.78
Finland 7 00 £	500	98⅜	98⅝	-¼	7.51
Glaxo Wellcome 8¾ 05 £	500	102⅞	103	-½	8.26
HSBC Holdings 11.69 02 £	153	114¼	114½	-⅛	8.25
Italy 10½ 14 £	400	119½	119¾	-⅛	8.32
Japan Dev Bk 7 00 £	200	98⅞	98⅞	-⅛	7.52
Land Secs 9½ 07 £	200	107⅛	107⅜	-⅛	8.42
Ontario 11⅛ 01 £	100	110¼	110½	-⅛	7.93
Powergen 8⅞ 03 £	250	102¾	103	-½	8.27
Severn Trent 11½ 99 £	150	107⅞	108	-⅛	7.83
Tokyo Elec Power 11 01 £	150	110⅝	110⅞	-¼	7.80
TCNZ Fin 9¼ 02 NZ$	75	102¾	103½	-½	8.86
World Bank 9 99 NZ$	250	101⅛	101½	-⅛	8.40
Credit Local 6 01 FFr	8000	104¼	104½	-⅛	4.94
Denmark 5½ 99 FFr	7000	103⅛	103⅝	+⅛	4.08
Elec de France 8¾ 22 FFr	3000	123⅞	123⅞	-1⅛	6.79

FLOATING RATE NOTES	Issued	Bid	Offer	C.cpn
Abbey Natl Treasury -1/16 99	1000	99.90	99.96	5.5000
Argentaria Global Fin 0 01	700	99.64	99.74	5.5469
Cades -1/16 01	2000	99.88	99.88	5.3750
Canada -⅛ 99	2000	99.74	99.80	5.2538
CCCE 0 06 Ecu	200	99.78	100.00	4.1328
Commerzbk O/S Fin -⅛ 98	750	99.80	99.86	5.3750
Credit Lyonnais 1/16 00	300	98.16	98.58	5.7500
Dresdner Finance 1/16 98 DM	1000	99.98	100.05	3.1875
Fed Nat Mort -1/16 00	1000	99.76	99.83	5.3672
Finland -⅛ 99	1500	99.98	100.02	5.4375
Halifax BS 0 99	500	100.07	100.14	5.5625
ING Bank Intl ⅛ 99	500	100.36	100.46	5.7500
Italy 1/16 99	1500	100.35	100.42	5.6250
Italy ⅛ 98 Ecu	1600	100.12	100.22	4.2461
LKB Baden-Wuert Fin -⅛ 98	1000	99.98	99.97	5.4375
Lloyds Bank Perp S 0.10	600	88.88	88.88	5.6938
Malaysia 1/16 05	650	99.82	99.92	5.6875
Nova Scotia 1/16 99	500	99.98	100.06	5.6602
Ontario 0 99	2000	100.08	100.16	5.4961
Portugal 1/16 99 DM	2500	100.26	100.34	3.1875
Quebec Hydro 0 99	500	99.78	99.90	5.5938
Renfe 0 98	500	99.80	100.00	5.4375
Spain -1/16 02 DM	2000	100.04	100.13	3.1875
State Bk Victoria 0.05 99	125	100.00	100.15	5.7219
Sweden -⅛ 01	2000	99.93	99.99	5.3867
United Kingdom -⅛ 01	2000	99.83	99.87	5.3125

CONVERTIBLE BONDS	Issued	Conv. Price	Bid	Offer	Prem.
Allied-Lyons 6¾ 08 £	200	6.04	95⅛	96⅞	+25.50
Deutsche Finance 0 17	1300	131.7	42½	42⅞	
Fuji Intl Finance ¼ 02 Y	210000		91¾	92⅝	
Gold Kalgoorlie 7½ 00	65	1.37	110	111½	-14.23
Grand Metropolitan 6½ 00	710	4.37	118	119	+1.16
Hong Kong Land 4 01	410	31.05	88¼	89⅛	-11.32
Land Secs 6¾ 02 £	84	6.72	111¼	114¾	-3.35
Lasmo 7¾ 05 £	90	5.84	95¾	95¾	
MBL Intl Fin 3 02	2000	22	100½	101	-5.41
Mitsui Bank 2⅝ 03	200	2332.6	80¼	82¼	
Pennzoil 4¾ 03	500	58.8097	120⅛	121⅛	+1.47
Sandoz Capital 2 02	750	1290.53	115¼	116	+19.84
Sappi BVI Finance 7½ 02	250	7.6	93⅛	94⅛	
Sapporo 1⅜ 00 Y	40000	1059.4	100	101	+22.90
Sumitomo Bank 3⅛ 04	300	3606.9	85½	86½	+65.55
Sun Alliance 7¼ 08 £	155	3.9	116	117¼	+23.27
Transatlantic Hldgs 5½ 09 £	250	5.06	96⅞	99⅞	+6.72

* No information available - previous day's price
‡ Only one market maker supplied a price

STRAIGHT BONDS: The yield is the yield to redemption of the bid-price; the amount issued is in millions of currency units. Chg. day=Change on day.
FLOATING RATE NOTES: Denominated in dollars unless otherwise indicated. Coupon shown is minimum. Spread=Margin above six-month offered rate (three-month $above mean rate) for US dollars. C.cpn=The current coupon.
CONVERTIBLE BONDS: Denominated in dollars unless otherwise indicated. Cnv. price=Nominal amount of bond per share expressed in currency of share at conversion rate fixed at issue. Prem=Percentage premium of the current effective price of acquiring shares via the bond over the most recent price of the shares.

CURRENCIES AND MONEY

Trade fears hit dollar

MARKETS REPORT

By Emiko Terazono

The US dollar firmed against the D-Mark on expectations of a further American interest rate rise, but was sold against the Japanese yen on fears of trade tensions.

The sharp decline on Wall Street this week had little effect on currency prices. With traders in Europe back at their desks after the Easter holiday weekend, the dollar closed up 0.1 pfennigs at DM 1.6697 against the D-Mark but fell Y0.77 against the Japanese currency to Y123.04. Sterling, meanwhile, was untouched by the slide in UK equities and closed up 0.9 pfennigs against the D-Mark at DM2.7493 and 0.4 cents against the US dollar at $1.6466.

The dollar fell on signs of growing anxiety within Washington over Japan's expanding trade deficit within the US. A Japanese government official quoted Mr Newt Gingrich, the US House Speaker, as indicating worries over Japan's trade surplus. Later, Mr Gingrich announced that for Japan to seek economic growth through predatory export policies and a restricted domestic market would inflame trade tensions.

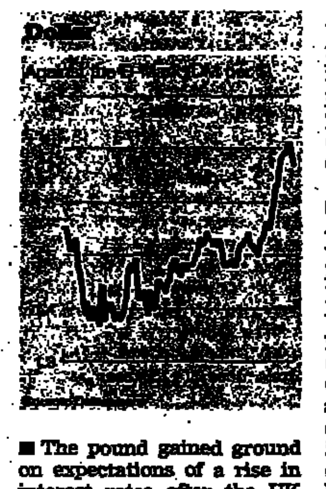
In US trading later, the dollar was sold against the yen by US funds. This also triggered the D-Mark's decline against the Japanese currency. Nervousness over the yen is likely to persist ahead of the meeting on Friday between Mr Robert Rubin, the US treasury secretary and Mr Ryutaro Hashimoto, Japan's prime minister. "If the policy makers perceive the top limit for the dollar/yen rate at Y130, current levels of the dollar are not great on a risk-reward basis," said Mr Paul Chertkow, global head of currency research at UBS in London.

Traders are also focussingon today's release of the Bank of Japan's tankan report, the quarterly survey on business confidence.

Since 1993, according to Deutsche Morgan Grenfell, a weaker-than-expected tankan weighs on the yen, and vice versa. The Japanese yen has moved in the expected direction on the day of the tankan's release 11 out of 13 times. On the day of releases in which the results were worse than expected, the dollar rose all six times against the yen by an average of 0.37 per cent. Of the seven survey releases that were higher-than-expected, the dollar fell five times and rose twice, for an average depreciation of 0.26 per cent.

■ Pound in New York

Apr 1	—Latest—	—Prev. close—
£ spot	1.6467	1.6395
1 mth	1.6461	1.6387
3 mth	1.6465	1.6374
1 yr	1.6391	1.6305



■ The pound gained ground on expectations of a rise in interest rates after the UK elections on May 1 and signs of continued economic growth. Mr Don Smith at HSBC Markets said that the positive sentiment toward sterling had continued since last week's release of labour market statistics and average earnings data.

Analysts expect the pound to strengthen further against the US dollar and other European currencies on the perception that the Labour party, which is forecast to come to power following the election, will increase rates.

■ Large lot purchases by a Japanese bank briefly lifted the Australian dollar and the New Zealand dollar in earlier trading. Japanese investors seeking higher yields provided support for the two currencies last year, by purchasing Australian dollar and New Zealand dollar denominated samurai bonds issued by sovereign borrowers. Some analysts had hoped that the start of the new Japanese financial year would prompt a wave of similar trades.

But economic fundamentals point to stable monetary policy in the two countries. The Reserve Bank of Australia board, which held its monthly meeting this week, is expected to keep interest rates at current levels. With the rise in US interest rates, the maintaining of Australia's key money market rate at 6 per cent may dampen the appetite of Japanese investors for Australian denominated bonds.

"Japanese buying will be there but it will be less of a positive for the Aussie dollar than it was last year," said Mr James Shugg, economist at Westpac Bank in London. He added that the Australian currency had yet to react to the US interest rate rise, and could decline if it reflected the move. Strategists predict the currency will trade within a range of $0.78 and $0.79 against the US dollar in the short term.

■ OTHER CURRENCIES

Apr 1	£	$
Czech Rp	47.5934 - 47.6708	28.9650 - 28.9440
Hungary	288.369 - 289.592	175.780 - 175.830
Iran	4941.00 - 4938.60	3000.00 - 3000.00
Kuwait	0.4985 - 0.4989	0.3028 - 0.3029
Poland	5.0505 - 5.0563	3.0680 - 3.0700
Russia	9444.25 - 9452.13	5737.00 - 5738.00
U.A.E.	6.0468 - 6.0496	3.6729 - 3.6731

WORLD INTEREST RATES

MONEY RATES

April 1	Over night	One month	Three mths	Six mths	One year	Lomb. Inter.	Dis. rate	Repo rate
Belgium	3¼	3¼	3¼	3¼	3½	6.00	2.50	-
France	3¼	3½	3¼	3¼	3¼	3.10	-	4.75
Germany	3⅛	3¼	3¼	3¼	3¼	4.50	2.50	3.00
Ireland	5⅝	5⅞	5⅞	5⅞	5⅞	-	-	6.25
Italy	7⅛	7⅛	7⅛	7⅛	7¼	9.25	6.75	7.34
Netherlands	3⅛	3⅛	3¼	3¼	3¼	-	3.00	3.30
Switzerland	1¾	1⅝	1⅝	1⅝	1⅝	-	1.00	-
US	5¼	5⅜	5⅜	5⅝	6⅛	-	5.00	-
Japan	½	½	½	½	⅝	-	0.50	-
■ $ LIBOR FT London								
Interbank Fixing	-	5½	5⅝	5⅞	6¼	-	-	-
US Dollar CDs	-	5.45	5.53	5.68	6.00	-	-	-
ECU Linked Ds	-	4¼	4¼	4¼	4¼	-	-	-
SDR Linked Ds	-	3¼	3⅝	3¼	3⅝	-	-	-

$ LIBOR interbank fixing rates are offered rates for $10m quoted to the market by four reference banks at 11am each working day. The banks are: Bankers Trust, Bank of Tokyo Mitsubishi, Barclays and National Westminster.
Mid rates are shown for the domestic Money Rates, US$ CDs, ECU & SDR Linked Deposits (Ds).

EURO CURRENCY INTEREST RATES

Apr 1	Short term	7 days notice	One month	Three months	Six months	One year
Belgian Franc	3¼ - 3⅛	3⅛ - 3⅛	3¼ - 3⅛	3¼ - 3⅛	3¼ - 3⅛	3⅜ - 3¼
Danish Krone	3⅞ - 3¼	3⅜ - 3⅜	3⅜ - 3¼	3⅜ - 3⅜	3⅜ - 3⅜	4⅛ - 4
German Mark	3⅛ - 3⅛	3⅛ - 2⅞	3¼ - 3	3¼ - 3⅛	3⅜ - 3¼	3⅜ - 3⅜
Dutch Guilder	3⅛ - 3⅛	3⅛ - 3⅛	3⅛ - 3⅛	3¼ - 3⅛	3⅜ - 3¼	3⅜ - 3⅜
French Franc	3⅜ - 3⅛	3⅜ - 3⅛	3⅜ - 3¼	3⅜ - 3¼	3⅜ - 3⅜	3⅜ - 3⅜
Portuguese Esc.	6⅞ - 6⅜	6¼ - 6⅛	6⅜ - 6¼	6⅜ - 6¼	6⅜ - 6¼	6⅜ - 6¼
Spanish Peseta	5⅜ - 5½	5⅜ - 5⅜	5⅜ - 5⅜	5⅜ - 5⅜	5⅞ - 5⅜	5⅞ - 5⅜
Sterling	6⅛ - 5⅞	6⅛ - 6	6⅛ - 6⅛	6⅜ - 6⅜	6⅝ - 6½	7 - 6⅞
Swiss Franc	2 - 1½	1⅞ - 1⅝	1⅝ - 1⅝	1⅝ - 1⅝	1⅝ - 1⅝	1⅝ - 1⅝
Canadian Dollar	3⅜ - 2⅞	3½ - 3	3⅜ - 3¼	3⅝ - 3⅜	3⅞ - 3⅜	4⅜ - 4¼
US Dollar	6⅛ - 6¼	5⅜ - 5⅜	5⅝ - 5⅜	5⅝ - 5⅝	5⅞ - 5⅝	6¼ - 6⅛
Italian Lira	7⅜ - 6⅞	7⅜ - 7¼	7⅜ - 7⅜	7⅜ - 7⅜	7⅜ - 7⅜	7⅜ - 7⅜
Japanese Yen	⅝ - ⅜	⅝ - ⅜	½ - ⅜	⅝ - ½	⅝ - ½	⅝ - ½
Asian $Sing	3½ - 3	3¼ - 3⅛	3⅜ - 3¼	3⅜ - 3⅜	3⅜ - 3¼	3½ - 3⅜

Short term rates are call for the US Dollar and Yen, others: two days' notice.

■ THREE MONTH PIBOR FUTURES (MATIF) Paris Interbank offered rate

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	96.60	96.61	-0.01	96.63	96.60	12,171	59,078
Sep	96.49	96.51	-0.01	96.53	96.49	7,297	45,871
Dec	96.36	96.37	-0.03	96.39	96.35	5,419	31,323

■ THREE MONTH EUROMARK FUTURES (LIFFE)* DM1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	96.72	96.74	+0.01	96.75	96.71	26439	222772
Sep	96.62	96.65	-	96.67	96.62	34119	185174
Dec	96.44	96.46	-0.01	96.48	96.43	21751	190898
Mar	96.26	96.27	-0.01	96.29	96.24	22171	148807

■ ONE MONTH EUROMARK FUTURES (LIFFE)* DM3m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Apr	-	96.76	-	-	-	0	7317
May	-	96.75	-	-	-	0	4053
Jun	-	96.75	-	-	-	0	625
Jul	-	96.74	-	-	-	0	0

■ THREE MONTH EUROLIRA FUTURES (LIFFE)* L1000m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	92.67	92.67	-0.05	92.71	92.59	16179	109421
Sep	92.98	92.98	-0.08	93.00	92.90	10937	61232
Dec	93.06	93.04	-0.10	93.07	92.97	4951	37259
Mar	93.06	93.03	-0.12	93.07	92.98	1980	23638

■ THREE MONTH EURO SWISS FRANC FUTURES (LIFFE) SFr1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	98.15	98.14	-0.02	98.18	98.14	3776	42968
Sep	98.09	98.09	-0.02	98.14	98.08	2100	21233
Dec	97.97	97.96	-0.03	97.99	97.96	793	14899
Mar	97.85	97.84	-0.03	97.86	97.83	538	6718

■ THREE MONTH EUROYEN FUTURES (LIFFE) Y100m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	-	99.36	-0.01	-	-	0	n/a
Sep	-	99.20	-0.03	-	-	0	n/a
Dec	99.02	99.01	-0.04	99.02	99.01	100	n/a

■ THREE MONTH ECU FUTURES (LIFFE) Ecu1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	95.77	95.78	-0.02	95.78	95.75	835	10247
Sep	95.69	95.66	-0.05	95.73	95.66	232	5146
Dec	95.59	95.56	-0.05	95.63	95.56	135	5245
Mar	95.53	95.44	-0.06	95.53	95.43	21	3748

* LIFFE futures also traded on APT

■ EUROLIRA OPTIONS (LIFFE) L1000m points of 100%

Strike Price	CALLS Jun	CALLS Sep	CALLS Dec	PUTS Jun	PUTS Sep	PUTS Dec
9250	0.38	0.74	0.86	0.21	0.28	0.32
9275	0.25	0.58	0.70	0.33	0.37	0.41
9300	0.14	0.41	0.55	0.47	0.45	0.51

Est. vol. total, Calls 6432 Puts 232. Previous day's open int., Calls 141864 Puts 58699

POUND SPOT FORWARD AGAINST THE POUND

Apr 1		Closing mid-point	Change on day	Bid/offer spread	Day's Mid high	Day's Mid low	One month Rate	One month %PA	Three months Rate	Three months %PA	One year Rate	One year %PA	Bank of Eng. Index
Europe													
Austria	(Sch)	19.3504	+0.0698	392 - 616	19.3494	19.2649	19.3069	2.7	19.2504	2.1	-	-	103.9
Belgium	(BFr)	56.7089	+0.0937	622 - 556	56.8560	56.3690	56.5839	2.6	56.3239	2.7	54.9989	3.0	103.8
Denmark	(DKr)	10.4750	+0.0386	708 - 792	10.4792	10.4268	10.459	2.5	10.4095	2.5	10.1995	2.8	108.3
Finland	(FM)	8.1811	+0.0486	750 - 871	8.1871	8.1380	-	-	-	-	-	-	84.1
France	(FFr)	9.2545	+0.0125	512 - 578	9.2586	9.2153	9.2324	2.9	9.1857	2.8	8.9716	3.1	107.0
Germany	(DM)	2.7493	+0.0098	478 - 508	2.7514	2.7380	2.7426	2.9	2.7291	2.9	2.6624	3.2	105.6
Greece	(Dr)	436.324	+1.078	095 - 554	438.710	433.233	-	-	-	-	-	-	66.0
Ireland	(I£)	1.0401	+0.0064	393 - 408	1.0408	1.0336	1.0398	0.3	1.0389	0.5	1.0323	0.7	102.2
Italy	(L)	2745.78	+6.52	389 - 769	2747.97	2735.72	2749.19	-1.5	2754.04	-1.2	2756.84	-0.4	75.9
Luxembourg	(LFr)	56.7254	+0.1002	787 - 721	56.8560	56.3690	56.6004	2.6	56.3404	2.7	55.0154	3.0	103.8
Netherlands	(Fl)	3.0926	+0.0126	912 - 939	3.0963	3.0775	3.0845	3.1	3.0687	3.1	2.9932	3.2	103.5
Norway	(NKr)	11.0619	+0.2281	542 - 695	11.0645	10.8016	11.0374	2.7	10.9889	2.6	10.7634	2.7	102.5
Portugal	(Es)	276.448	+0.988	298 - 597	276.597	275.230	276.588	-0.6	276.878	-0.6	-	-	94.8
Spain	(Pta)	232.986	+0.2	904 - 067	233.067	232.060	233.118	-0.7	232.986	0.0	231.511	0.6	78.1
Sweden	(SKr)	12.5273	+0.157	180 - 365	12.5365	12.3636	12.5063	1.8	12.4666	1.9	12.2728	2.0	84.5
Switzerland	(SFr)	2.3736	+0.0081	722 - 750	2.3750	2.3625	2.3646	4.5	2.3469	4.5	2.2626	4.7	103.2
UK	(£)	-	-	-	-	-	-	-	-	-	-	-	96.7
Ecu	-	1.4125	+0.003	118 - 132	1.4141	1.4050	1.4103	1.9	1.4056	2.0	1.3805	2.3	-
SDR†	-	1.186800	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	1.6463	+0.0045	459 - 467	1.6466	1.6375	-	-	-	-	-	-	-
Brazil	(R$)	1.7437	+0.0027	430 - 443	1.7457	1.7376	-	-	-	-	-	-	-
Canada	(C$)	2.2856	+0.0173	846 - 865	2.2867	2.2669	2.2797	3.1	2.269	2.9	2.2244	2.7	84.2
Mexico	(New Peso)	13.0436	+0.0209	363 - 508	13.0526	12.9745	-	-	-	-	-	-	-
USA	($)	1.6466	+0.0046	462 - 470	1.6471	1.6377	1.646	0.4	1.6444	0.5	1.637	0.6	108.8
Pacific/Middle East/Africa													
Australia	(A$)	2.0913	-0.0035	901 - 925	2.0936	2.0809	2.0912	0.1	2.0904	0.2	2.0863	0.2	96.0
Hong Kong	(HK$)	12.7567	+0.0328	528 - 606	12.7606	12.6907	12.7521	0.4	12.7411	0.5	12.701	0.4	-
India	(Rs)	59.0718	+0.165	163 - 273	59.1273	58.6190	-	-	-	-	-	-	-
Israel	(Shk)	5.5219	+0.016	153 - 285	5.5285	5.5023	-	-	-	-	-	-	-
Japan	(Y)	202.598	-0.898	483 - 713	203.710	202.350	201.828	5.7	199.768	5.6	191.158	5.6	122.3
Malaysia	(M$)	4.0783	+0.0073	765 - 801	4.0801	4.0570	-	-	-	-	-	-	-
New Zealand	(NZ$)	2.3599	-0.0034	585 - 613	2.3632	2.3542	2.3628	-1.5	2.3679	-1.4	2.3881	-1.2	115.4
Philippines	(Peso)	43.4159	+0.1245	609 - 709	43.4709	43.3609	-	-	-	-	-	-	-
Saudi Arabia	(SR)	6.1756	+0.0172	733 - 779	6.1779	6.1425	-	-	-	-	-	-	-
Singapore	(S$)	2.3691	-0.0041	681 - 700	2.3700	2.3620	-	-	-	-	-	-	-
South Africa	(R)	7.2780	+0.0195	737 - 822	7.2822	7.2254	-	-	-	-	-	-	-
South Korea	(Won)	1475.35	+4.94	170 - 901	1479.01	1465.41	-	-	-	-	-	-	-
Taiwan	(T$)	45.3474	+0.1267	034 - 913	45.3913	45.1215	-	-	-	-	-	-	-
Thailand	(Bt)	42.7211	+0.0701	024 - 397	42.7400	42.5310	-	-	-	-	-	-	-

† Rates for Mar 31. Bid/offer spreads in the Pound Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. Sterling index calculated by the Bank of England. Base average 1990 = 100. Index rebased 1/2/95. Bid, Offer and Mid-rates in both this and the Dollar Spot tables derived from THE WM/REUTERS CLOSING SPOT RATES. Some values are rounded by the F.T.
The exchange rates printed in this table are also available on the internet at http://www.FT.com

DOLLAR SPOT FORWARD AGAINST THE DOLLAR

Apr 1		Closing mid-point	Change on day	Bid/offer spread	Day's mid high	Day's mid low	One month Rate	One month %PA	Three months Rate	Three months %PA	One year Rate	One year %PA	J.P Morgan index
Europe													
Austria	(Sch)	11.7518	+0.0095	478 - 557	11.7970	11.7290	11.737	1.5	11.6918	2.0	11.4968	2.2	103.8
Belgium	(BFr)	34.4400	-0.0455	200 - 600	34.6260	34.2560	34.38	2.1	34.2525	2.2	33.7125	2.1	103.8
Denmark	(DKr)	6.3616	+0.0057	606 - 626	6.3795	6.3500	6.3527	1.7	6.3343	1.7	6.2526	1.7	106.7
Finland	(FM)	4.9685	+0.0157	660 - 709	4.9850	4.9572	4.9597	2.1	4.9409	2.2	4.8585	2.2	83.4
France	(FFr)	5.6204	-0.0081	197 - 210	5.6380	5.6137	5.6097	2.3	5.5887	2.3	5.4804	2.5	106.7
Germany	(DM)	1.6697	+0.0013	692 - 702	1.6760	1.6663	1.6665	2.3	1.66	2.3	1.6263	2.6	105.4
Greece	(Dr)	264.985	-0.085	910 - 060	266.220	264.070	266.54	-7.0	269.11	-6.2	280.135	-5.7	65.9
Ireland	(I£)	1.5833	-0.0052	825 - 840	1.5880	1.5815	1.5828	0.3	1.5823	0.3	1.5836	0.0	-
Italy	(L)	1667.55	-0.7	680 - 830	1673.57	1664.75	1670.55	-2.2	1675.4	-1.9	1685.2	-1.1	75.6
Luxembourg	(LFr)	34.4500	-0.0355	300 - 700	34.6260	34.2560	34.39	2.1	34.2625	2.2	33.7225	2.1	103.8
Netherlands	(Fl)	1.8782	+0.0024	778 - 785	1.8850	1.8736	1.8744	2.4	1.8664	2.5	1.8309	2.5	103.4
Norway	(NKr)	6.7180	+0.1201	150 - 210	6.7350	6.5751	6.7142	0.7	6.7066	0.6	6.683	0.5	103.5
Portugal	(Es)	167.890	+0.13	840 - 940	168.540	167.610	168.02	-0.9	168.17	-0.7	167.905	0.0	95.2
Spain	(Pta)	141.495	-0.275	480 - 510	141.900	141.270	141.585	-0.8	141.705	-0.6	141.5	0.0	77.9
Sweden	(SKr)	7.6080	+0.0743	042 - 117	7.6117	7.5370	7.6052	0.4	7.5968	0.7	7.548	0.8	89.9
Switzerland	(SFr)	1.4415	+0.0009	410 - 420	1.4485	1.4390	1.4367	4.0	1.4273	3.9	1.3818	4.1	103.1
UK	(£)	1.6466	+0.0046	462 - 470	1.6471	1.6377	1.646	0.4	1.6444	0.5	1.637	0.6	96.3
Ecu	-	1.1657	+0.0007	654 - 660	1.1668	1.1620	1.1668	-1.2	1.1694	-1.3	1.1846	-1.6	-
SDR†	-	0.72060	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	0.9998	-0.0001	998 - 998	0.9998	0.9998	-	-	-	-	-	-	-
Brazil	(R$)	1.0590	-0.0013	589 - 591	1.0605	1.0588	-	-	-	-	-	-	-
Canada	(C$)	1.3881	+0.0068	878 - 883	1.3902	1.3838	1.3852	2.5	1.38	2.3	1.3586	2.1	84.3
Mexico	(New Peso)	7.9215	-0.0095	190 - 240	7.9270	7.9170	8.0395	-17.9	8.306	-19.4	9.1665	-15.7	-
USA	($)	-	-	-	-	-	-	-	-	-	-	-	104.6
Pacific/Middle East/Africa													
Australia	(A$)	1.2701	-0.0057	697 - 705	1.2706	1.2697	1.2708	-0.7	1.2716	-0.5	1.2769	-0.5	99.7
Hong Kong	(HK$)	7.7473	-0.0017	468 - 478	7.7495	7.7468	7.7472	0.0	7.7477	0.0	7.7588	-0.1	-
India	(Rs)	35.8750	-	500 - 000	35.9000	35.8500	36.09	-7.2	36.55	-7.5	-	-	-
Israel	(Shk)	3.3535	+0.0003	503 - 567	3.3567	3.3494	-	-	-	-	-	-	-
Japan	(Y)	123.040	-0.77	000 - 080	124.050	122.900	122.505	5.2	121.48	5.1	116.68	5.2	122.5
Malaysia	(M$)	2.4768	-0.0025	763 - 773	2.4780	2.4748	2.4798	-1.4	2.485	-1.3	2.5063	-1.2	-
New Zealand	(NZ$)	1.4332	-0.0061	327 - 337	1.4375	1.4327	1.4355	-1.9	1.4398	-1.8	1.4605	-1.9	-
Philippines	(Peso)	26.3670	+0.002	400 - 940	26.3940	26.3400	-	-	-	-	-	-	-
Saudi Arabia	(SR)	3.7505	-0.0001	500 - 510	3.7510	3.7500	3.7508	-0.1	3.7512	-0.1	3.7531	-0.1	-
Singapore	(S$)	1.4388	-0.0065	385 - 390	1.4453	1.4380	1.4366	1.8	1.4321	1.9	1.4108	1.9	-
South Africa	(R)	4.4200	-0.0005	185 - 215	4.4280	4.3955	4.4607	-11.0	4.5357	-10.5	4.8505	-9.7	-
South Korea	(Won)	896.000	+0.5	000 - 000	898.000	893.000	-	-	-	-	-	-	-
Taiwan	(T$)	27.5400	-	200 - 600	27.5600	27.5200	27.5401	0.0	27.5403	0.0	-	-	-
Thailand	(Bt)	25.9450	-0.03	400 - 500	25.9750	25.9100	26.035	-4.2	26.2025	-4.0	26.84	-3.4	-

† SDR rate per $ for Mar 31. Bid/offer spreads in the Dollar Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. UK, Ireland & ECU are quoted in US currency. J.P. Morgan nominal indices Mar 31: Base average 1990=100.
The exchange rates printed in this table are also available on the internet at http://www.FT.com

CROSS RATES AND DERIVATIVES

EXCHANGE CROSS RATES

Apr 1		BFr	DKr	FFr	DM	I£	L	Fl	NKr	Es	Pta	SKr	SFr	£	C$	$	Y	Ecu
Belgium	(BFr)	100	18.48	16.32	4.847	1.834	4840	5.454	19.50	487.4	410.7	22.09	4.186	1.763	4.029	2.904	357.3	2.492
Denmark	(DKr)	54.16	10	8.839	2.626	0.993	2622	2.954	10.56	264.0	222.4	11.97	2.267	0.955	2.182	1.573	193.5	1.350
France	(FFr)	61.28	11.31	10	2.971	1.124	2966	3.342	11.95	298.7	251.7	13.54	2.565	1.081	2.469	1.780	218.9	1.527
Germany	(DM)	20.63	3.809	3.366	1	0.378	998.5	1.125	4.023	100.5	84.72	4.558	0.864	0.364	0.831	0.599	73.70	0.514
Ireland	(I£)	54.53	10.07	8.898	2.643	1	2639	2.974	10.63	265.8	223.9	12.05	2.283	0.962	2.197	1.584	194.8	1.359
Italy	(L)	2.066	0.381	0.337	0.100	0.038	100.	0.113	0.403	10.07	8.485	0.456	0.086	0.036	0.083	0.060	7.381	0.051
Netherlands	(Fl)	18.33	3.385	2.992	0.889	0.336	887.5	1	3.576	89.36	75.30	4.051	0.768	0.323	0.739	0.532	65.50	0.457
Norway	(NKr)	51.27	9.467	8.367	2.486	0.940	2482	2.797	10	249.9	210.6	11.33	2.146	0.904	2.066	1.489	183.2	1.278
Portugal	(Es)	20.52	3.788	3.348	0.995	0.376	993.1	1.119	4.001	100.	84.26	4.533	0.859	0.362	0.827	0.596	73.30	0.511
Spain	(Pta)	24.35	4.495	3.973	1.180	0.447	1179	1.328	4.749	118.7	100.	5.380	1.019	0.429	0.981	0.707	86.99	0.607
Sweden	(SKr)	45.26	8.356	7.385	2.194	0.830	2191	2.468	8.827	220.6	185.9	10	1.895	0.798	1.824	1.314	161.7	1.128
Switzerland	(SFr)	23.89	4.410	3.898	1.158	0.438	1156	1.303	4.659	116.4	98.10	5.278	1	0.421	0.963	0.694	85.34	0.595
UK	(£)	56.71	10.47	9.254	2.749	1.040	2745	3.093	11.06	276.4	232.9	12.53	2.374	1	2.285	1.647	202.6	1.413
Canada	(C$)	24.82	4.582	4.050	1.203	0.455	1201	1.354	4.840	121.0	101.9	5.484	1.039	0.438	1	0.721	88.67	0.618
US	($)	34.43	6.357	5.619	1.669	0.631	1667	1.878	6.715	167.8	141.4	7.608	1.441	0.607	1.387	1	123.0	0.858
Japan	(Y)	27.99	5.168	4.568	1.357	0.513	1355	1.527	5.459	136.4	115.0	6.185	1.172	0.494	1.128	0.813	100.	0.697
Ecu		40.13	7.410	6.549	1.946	0.736	1943	2.189	7.827	195.6	164.8	8.868	1.680	0.708	1.617	1.166	143.4	1

Danish Kroner, French Franc, Norwegian Kroner, and Swedish Kronor per 10; Belgian Franc, Yen, Escudo, Lira and Peseta per 100.

■ D-MARK FUTURES (IMM) DM 125,000 per DM

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.6000	0.6020	+0.0012	0.6034	0.5998	31,482	60,999
Sep	0.6055	0.6065	+0.0017	0.6065	0.6054	40	2,540
Dec	-	0.6108	-	-	-	70	200

■ JAPANESE YEN FUTURES (IMM) Yen 12.5 per Yen 100

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.8173	0.8178	-0.0015	0.8195	0.8151	13,509	70,003
Sep	0.8281	0.8281	-0.0024	0.8285	0.8281	45	918
Dec	-	0.8420	-	-	-	11	380

■ SWISS FRANC FUTURES (IMM) SFr 125,000 per SFr

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.6953	0.6955	-0.0014	0.7011	0.6953	16,181	39,465
Sep	0.7064	0.7033	-0.0007	0.7068	0.7064	125	2,128
Dec	0.7144	0.7144	+0.0029	0.7148	0.7144	221	423

■ STERLING FUTURES (IMM) £62,500 per £

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	1.6378	1.6384	+0.0086	1.6448	1.6352	18,263	33,156
Sep	1.6420	1.6420	+0.0058	1.6420	1.6420	21	810
Dec	-	1.6400	-	1.6390	-	2	93

UK INTEREST RATES

LONDON MONEY RATES

Apr 1	Over-night	7 days notice	One month	Three months	Six months	One year
Interbank Sterling	6⅛ - 5¾	6⅛ - 5⅞	6⅛ - 6	6½ - 6⅜	6⅝ - 6⅝	7⅛ - 6⅞
Sterling CDs	-	-	6⅛ - 6⅛	6⅜ - 6⅜	6½ - 6⅜	6⅞ - 6⅞
Treasury Bills	-	-	6⅛ - 5⅞	6⅛ - 6⅛		
Bank Bills	-	-	6⅛ - 5⅞	6⅛ - 6⅛	6½ - 6⅜	
Local authority deps.	5⅞ - 5⅞	5⅞ - 5⅞	6⅛ - 5⅞	6⅛ - 6⅛	6⅝ - 6⅛	6⅞ - 6⅞
Discount Market deps	6 - 5⅞	5⅞ - 5⅞	-	-	-	-

UK clearing bank base lending rate 6 per cent from October 30, 1996

	Up to 1 month	1-3 month	3-6 months	6-9 months	9-12 months
Certs of Tax dep. (£100,000)	2½	5½	5	5	4¾

Certs of Tax dep. under £100,000 is 2½pc. Deposits withdrawn for cash 1¼pc.
Ave. tender rate of discount on Mar 27, 6.0361pc. ECGD fixed rate Stlg. Export Finance. Make up day Mar 27, 1997. Agreed rate for period Apr 22, 1997 to May 25, 1997, Scheme III 7.53pc. Reference rate for period Mar 1, 1997 to Mar 27, 1997, Scheme IV & V 6.262pc. Finance House Base Rate 6½pc from Mar 1, 1997

■ THREE MONTH STERLING FUTURES (LIFFE) £500,000 points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	93.31	93.30	-0.03	93.31	93.29	10705	120440
Sep	93.01	92.99	-0.05	93.01	92.97	14057	84308
Dec	92.77	92.74	-0.07	92.78	92.73	14026	83931
Mar	92.58	92.54	-0.07	92.58	92.52	6586	45242
Jun	92.43	92.40	-0.07	92.43	92.39	2501	35440

Also traded on APT. All Open interest figs. are for previous day.

■ SHORT STERLING OPTIONS (LIFFE) £500,000 points of 100%

Strike Price	CALLS Jun	CALLS Sep	CALLS Dec	PUTS Jun	PUTS Sep	PUTS Dec
9325	0.16	0.10	0.10	0.11	0.36	0.61
9350	0.05	0.04	0.05	0.25	0.55	0.81
9375	0.01	0.02	0.03	0.46	0.78	1.04

Est. vol. total, Calls 2596 Puts 3505. Previous day's open int., Calls 151971 Puts 195173

EMS EUROPEAN CURRENCY UNIT RATES

Apr 1	Ecu cen. rates	Rate against Ecu	Change on day	% +/- from cen. rate	% spread v weakest	Div. ind.
Finland	5.85424	5.81340	+0.01787	-0.70	3.05	5
Portugal	197.398	196.335	-0.079	-0.54	2.89	4
Ireland	0.798709	0.736845	-0.001868	-7.50	10.62	51
Spain	163.826	165.530	-0.075	1.04	1.28	-7
Netherlands	2.16979	2.19627	+0.00038	1.22	1.10	-8
Denmark	7.34556	7.44065	+0.0031	1.30	1.02	-8
Germany	1.92573	1.95282	+0.00076	1.41	0.91	-14
Belgium	39.7191	40.2941	+0.0169	1.45	0.87	-11
Austria	13.5485	13.7452	+0.0054	1.45	0.87	-11
France	6.45863	6.57978	+0.0038	1.88	0.45	-16
Italy	1906.48	1950.96	+2.62	2.33	0.00	-17
NON ERM MEMBERS						
Greece	295.269	310.005	+1.321	4.99	-2.53	-
UK	0.793103	0.711709	-0.002192	-10.26	14.04	-

Ecu central rates set by the European Commission. Currencies are in descending relative strength. Percentage changes are for Ecu; a positive change denotes a weak currency. Divergence shows the ratio between two spreads: the percentage difference between the actual market and Ecu central rates for a currency, and the maximum permitted percentage deviation of the currency's market rate from its Ecu central rate. 17/9/92: Sterling suspended from ERM. Adjustment calculated by the Financial Times.

■ PHILADELPHIA SE £/$ OPTIONS £31,250 (cents per pound)

Strike Price	CALLS Apr	CALLS May	CALLS Jun	PUTS Apr	PUTS May	PUTS Jun
1.620	2.13	2.92	3.41	0.25	1.06	1.65
1.630	1.37	2.36	2.83	0.39	1.46	2.06
1.640	0.76	1.63	2.37	0.89	1.98	2.51

Previous day's vol., Calls 267 Puts 347. Prev. day's open int., Calls 28,559 Puts 38,215

■ PHILADELPHIA SE D-MARK/$ OPTIONS DM62,500 ($ per DM)

Strike Price	CALLS Apr	CALLS May	CALLS Jun	PUTS Apr	PUTS May	PUTS Jun
0.590	0.90	1.30	1.60	0.13	0.38	0.56
0.595	0.55	0.99	1.29	0.25	0.55	0.76
0.600	0.31	0.72	1.02	0.49	0.79	1.06

Previous day's vol., Calls 230 Puts 814. Prev. day's open int., Calls 25,059 Puts 39,542

■ THREE MONTH EURODOLLAR (IMM) $1m points of 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	94.02	94.02	+0.02	94.09	93.98	58,132	509,260
Sep	93.69	93.69	-	93.71	93.67	90,669	376,705
Dec	93.41	93.39	-	93.43	93.38	66,188	269,926

■ US TREASURY BILL FUTURES (IMM) $1m per 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	94.58	94.58	-	94.56	94.55	76	6,944
Sep	94.24	94.25	+0.02	94.25	94.24	84	2,882
Dec	-	-	-	-	-	-	-

All Open interest figs. are for previous day

■ EUROMARK OPTIONS (LIFFE) DM1m points of 100%

Strike Price	CALLS Apr	CALLS May	CALLS Jun	CALLS Sep	PUTS Apr	PUTS May	PUTS Jun	PUTS Sep
9650	0.24	0.25	0.26	0.21	0	0.01	0.02	0.05
9675	0.02	0.04	0.06	0.07	0.03	0.05	0.07	0.17
9700	0	0.01	0.01	0.02	0.26	0.27	0.27	0.37

Est. vol. total, Calls 2260 Puts 2805. Previous day's open int., Calls 635432 Puts 226016

■ EURO SWISS FRANC OPTIONS (LIFFE) SFr 1m points of 100%

Strike Price	CALLS Jun	CALLS Sep	CALLS Dec	PUTS Jun	PUTS Sep	PUTS Dec
9825	0.08	0.13	0.18	0.19	0.29	0.47
9850	0.02	0.06	0.08	0.38	0.47	0.68

Est. vol. total, Calls 0 Puts 0. Previous day's open int., Calls 1025 Puts 1365

BASE LENDING RATES

	%		%		%
Adam & Company	6.00	Duncan Lawrie	6.00	Royal Bk of Scotland	6.00
Allied Irish Bank (GB)	6.00	Exeter Bank Limited	7.00	•Singer & Friedlander	6.00
•Henry Ansbacher	6.00	Financial & Gen Bank	7.00	•Smith & Williamson Secs	6.00
Bank of Baroda	6.00	•Robert Fleming & Co	6.00	Scottish Widows Bank	6.00
Banco Bilbao Vizcaya	6.00	•Guinness Mahon	6.00	TSB	6.00
Bank of Cyprus	6.00	Habib Bank AG Zurich	6.00	United Bank of Kuwait	6.00
Bank of Ireland	6.00	•Hambros Bank	6.00	Unity Trust Bank Plc	6.00
Bank of India	6.00	Heritable & Gen Inv Bk	6.00	Western Trust	6.00
Bank of Scotland	6.00	•Hill Samuel	6.0	Whiteaway Laidlaw	6.00
Barclays Bank	6.00	C. Hoare & Co	6.00	Yorkshire Bank	6.00
Brit Bk of Mid East	6.00	Hongkong & Shanghai	6.00		
•Brown Shipley & Co Ltd	6.00	Investec Bank (UK) Ltd	6.00		
Citibank NA	6.00	Julian Hodge Bank	6.00		
Clydesdale Bank	6.00	•Leopold Joseph & Sons	6.00		
The Co-operative Bank	6.00	Lloyds Bank	6.00		
Coutts & Co	6.00	Midland Bank	6.00		
Cyprus Popular Bank	6.00	NatWestminster	6.00		
		•Rea Brothers	6.00		

• Members of London Investment Banking Association
* In administration

COMMODITIES AND AGRICULTURE

Vietnam moves to deregulate rice business

By Jeremy Grant in Hanoi

Vietnam is to prise open its tightly controlled domestic and export rice businesses by decentralising the allocation of rice export quotas and abolishing barriers that choke internal trade.

Analysts welcomed the moves as a significant step in liberalising the country's rice market and unlocking further export potential. Vietnam was the world's second largest rice exporter after Thailand last year, when the staple earned Hanoi about $1bn in much-needed foreign exchange.

However, the new rules, contained in two government decrees, fell short of allowing private sector participation in rice exports, even though it is the key force in production and distribution.

The World Bank and other agencies have long urged this as a way of spurring competitiveness in Vietnam's rice industry and boosting export revenue.

Under the decrees, Hanoi set a rice export quota for March to September of 2.5m tonnes.

Previously, the quota was allocated to two food trading companies – Vinafood 1 and Vinafood 2. They kept the lion's share, parcelling out the rest to 13 other state companies with export licences.

It was a restrictive regime that allowed the Vinafood monopoly to exploit differentials between local and international rice prices, effectively imposing a tax on farmers and capping productivity.

However under the new rules, two-thirds of the quota will be handed directly to 14 provinces, most located in Vietnam's "rice bowl" Mekong region.

They in turn can nominate one or more enterprises for direct rice exports, although the rules do not stipulate the criteria to be used in making the choice. The immediate effect will be to increase the number of companies allowed to export to 21, including both Vinafood companies.

The development also has political significance. It represents a victory for those in Hanoi who have been advocating reform, over the entrenched interests of both Vinafood companies.

"Having given the power to the provincial authorities, it will be almost impossible to withdraw it. The next steps towards full liberalisation are likely to be pushed by the provinces themselves," said Mr Francesco Goletti of the Washington-based International Rice Research Institute.

The decrees also abolish taxes and *cumbersome licensing* procedures that have seriously hindered the trading of rice between Vietnam's provinces, in particular between the north and south.

That should stimulate trade within Vietnam, allow for a more efficient marketing system and allow prices to be set by supply and demand, rather than largely by the Vinafood monopolies, as was the case previously.

In addition, the rules allow any organisations and individuals "who satisfy the necessary requirements" to deal in domestic rice trading. That in theory would *open the way for small*, private entrepreneurs but the criteria for entry appear to render that a remote possibility.

Mr Nguyen Dang Chi of the trade ministry says entities must secure a "business certificate", have minimum paid-up capital of 50bn dong ($4.5m) and have been trading for three years. Very few private companies are large enough to meet these conditions.

Soyabean futures up on data revision

By Laurie Morse in Chicago

Soyabean futures prices on the Chicago Board of Trade soared yesterday after the US Department of Agriculture offered its own version of an April Fool.

The agency confessed to a mathematical error in the quarterly grain stocks report it had released on Monday, and offered a revision for soyabean supplies that sparked frantic trading in the futures pit.

The agency on Monday had said that US soyabean supplies as of March 1 were 1.078bn bushels. However, on Tuesday morning it revised that figure downwards by 22m bushels to 1.056bn bushels.

Soyabean futures prices for July delivery scored a contract high of $8.88 a bushel, and for May delivery a contract high of $8.85¾ after the announcement. Both contracts briefly hung at the highest allowable advance for a day, up 30 cents a bushel, before fading back slightly.

"This is the first time in 30 years that the USDA has made this kind of error," said Mr Joe Victor, analyst with Allendale. "Soyabean stocks are extremely tight, and this just caught everyone by surprise."

The USDA report provided a snapshot of soyabean stocks in place on March 1. The agency will give its estimate for year-end stocks of soyabeans on April 11 in a regular monthly report. Last month it estimated the US soyabean carry-over at year-end at a thin 140m bushels.

Traders said that government statistics released last Thursday showing domestic soyabean processing remained remarkably high given the extent of the soyabean price rally this year.

"We still have not got prices high enough to ration demand," said Mr Victor.

Crude oil prices drop

MARKETS REPORT

By Robert Corzine, Kenneth Gooding and Gary Mead

Crude oil prices fell yesterday as the impact of last week's production cuts in Nigeria began to fade.

Royal Dutch/Shell, the largest operator in Nigeria, reported that output in the Niger River delta was returning to normal after protests by disgruntled local residents last week forced the closure of a number of oil processing stations and production cuts of around 210,000 barrels a day.

The price of Brent Blend, the international benchmark, was quoted at around $19.12 a barrel in late London trading, 26 cents down on its close last Friday.

The heavy blizzard that hit the north-eastern US over the past few days had little impact on prices but gas oil futures – which are sensitive to big changes in weather patterns – closed down $1.25 to $165.50 a tonne on London's International Petroleum Exchange.

A big fall in London Metal Exchange zinc stocks helped to propel the metal to a 4½-year peak, taking it above $1,300 a tonne again. The drop of 13,025 tonnes means LME zinc stocks have fallen by 60,750 tonnes in the first quarter of this year.

Traders suggested the stocks fall was caused by a one-off purchase by a North American zinc producer running short of the metal.

Mr Adam Rowley, analyst at Macquarie Equities, part of the Australian banking group, said the market had been rife with rumours of a big rise in stocks because of a delivery into LME warehouses from China.

May futures for robusta coffee in London opened higher, reaching a peak of $1,660 a tonne. However, early gains were trimmed as a result of increased producer selling. At the close, May futures were down $23 on the day at $1,612 a tonne, with some analysts saying the market was experiencing a static, post-holiday feel. In New York, May futures in mid-morning trading fell 4.15 cents a pound.

LME WAREHOUSE STOCKS
(As at Thursday's close)
tonnes

Aluminium	-2,525	to 853,000
Aluminium alloy	-200	to 72,400
Copper	-6,225	to 177,250
Lead	-500	to 106,925
Nickel	-240	to 47,382
Zinc	-13,025	to 446,075
Tin	-80	to 10,125

Good start to season for Indian tea

By Kunal Bose in Calcutta

Tea prices are strong in India as the new season crop starts to arrive at the auction centres in small quantities.

Mr P.K. Sen, chairman of J. Thomas, the world's largest tea broker, said it was too early to estimate the size of the 1997 Indian crop. "But the domestic demand for tea is growing so strongly that we expect it to fetch good prices throughout the season," he said.

Prices of all grades of CTC (cut, tear and curl) and orthodox tea are exceptionally firm.

The crop in March, the first big tea-growing month in India, was down at least 30 per cent on the 32.3m kg of the same month last year. Even though India had a record crop of 780m kg in 1996 against 753.9m kg in the previous year, the current season opened with virtually no stocks, which boosted prices.

Mr Vijay Dudeja, chairman of the Paramount Tea Marketing tea broker, said a new season usually started with stocks of 20m kg to 30m kg of tea.

"The negligible opening stocks in 1997 and a poor crop in the first quarter led to the cancellation of a couple of auctions in March," said Mr Dudeja. "Prices, which started improving in December, continue to harden with every auction."

The shortage and high prices of coffee have also raised demand for tea, which remains the cheapest of all beverages in spite of the recent rise in prices.

According to industry officials, the country could still achieve the Indian Tea Board production target of 800m kg in the current year, provided the growing centres receive regular rain from now on and the winter does not set in early. They do not think it should be at all difficult to raise tea exports to 165m kg from nearly 154m kg in 1996.

"We expect bigger buying from Russia, Poland, Iran and several other west Asian countries," said Mr Sen. "Iraq is back in the market. Exports to the UK will be held around 30m kg. Our advantage is that our tea is cheaper than Sri Lankan and Kenyan tea. Interestingly, the merchant exporters in Sri Lanka have started buying tea from us to honour their commitments."

The trade officials think that good liquoring tea, which is much sought after both within and outside the country, will fetch a very high premium over medium and plain tea. More and more tea gardens in Assam and West Bengal are changing their agronomic and processing techniques to make good liquor-orientated tea.

Panos Pictures

Weather permitting, India's tea growers should achieve their production targets and good prices are expected to prevail

COMMODITIES PRICES

BASE METALS

LONDON METAL EXCHANGE
(Prices from Amalgamated Metal Trading)

ALUMINIUM, 99.7 PURITY ($ per tonne)

	Cash	3 mths
Close	1603-04	1637-38
Previous	1606.5-7.5	1639.5-40.0
High/low	1603/1602	1647/1630
AM Official	1602-02.5	1637.5-38
Kerb close		1630-31
Open int.	287,058	
Total daily turnover	56,173	

ALUMINIUM ALLOY ($ per tonne)

	Cash	3 mths
Close	1510-15	1537-40
Previous	1505-15	1535-40
High/low		1540/1537
AM Official	1505-06	1537-40
Kerb close		1530-35
Open int.	5,852	
Total daily turnover	1,533	

LEAD ($ per tonne)

	Cash	3 mths
Close	695-7	685-6
Previous	697-8	687-8
High/low	698	689/687
AM Official	697-8	688-8.5
Kerb close		688-9
Open int.	39,308	
Total daily turnover	7,560	

NICKEL ($ per tonne)

	Cash	3 mths
Close	7615-25	7730-35
Previous	7610-20	7720-25
High/low	7660	7820/7730
AM Official	7659-60	7765-66
Kerb close		7755-60
Open int.	49,697	
Total daily turnover	17,383	

TIN ($ per tonne)

	Cash	3 mths
Close	5830-40	5860-65
Previous	5860-70	5875-80
High/low	5865/5860	5895/5845
AM Official	5860-65	5885-90
Kerb close		5855-60
Open int.	16,344	
Total daily turnover	3,214	

ZINC, special high grade ($ per tonne)

	Cash	3 mths
Close	1278.5-79.5	1297-98
Previous	1265-6	1284.5-5.5
High/low		1310/1291
AM Official	1278-79	1296.5-97
Kerb close		1308-09
Open int.	86,482	
Total daily turnover	38,162	

COPPER, grade A ($ per tonne)

	Cash	3 mths
Close	2405-06	2356-57
Previous	2425-7	2366.5-7.5
High/low	2406/2402	2379/2348
AM Official	2400-02	2355-57
Kerb close		2359-60
Open int.	138,148	
Total daily turnover	43,504	

LME AM Official £/$ rate: 1.6436
LME Closing £/$ rate: 1.6471
Spot: 1.6485 3 mths: 1.6463 6 mths: 1.6441 9 mths: 1.6416

HIGH GRADE COPPER (COMEX)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	112.40	-2.15	114.50	111.80	631	3,850
May	111.60	-1.40	112.60	110.20	2,309	23,534
Jun	109.20	-	109.20	109.20	46	1,286
Jul	108.70	-0.85	108.70	107.20	224	8,441
Aug	108.50	-	108.50	108.50	44	740
Sep	108.00	-0.55	108.00	105.20	8	3,955
Total					3,878	84,205

PRECIOUS METALS

LONDON BULLION MARKET
(Prices supplied by N M Rothschild)

Gold(Troy oz)	$ price	£ equiv	SFr equiv
Close	350.40-350.90		
Opening	350.30-350.70		
Morning fix	349.85	212.84	503.36
Afternoon fix	350.00	212.68	504.18
Day's High	350.90-351.30		
Day's Low	349.40-349.80		
Previous close	347.70-348.20		

Loco Ldn Mean Gold Lending Rates (Vs US$)

1 month	4.52	6 months	4.42
2 months	4.45	12 months	4.41
3 months	4.45		

Silver Fix	p/troy oz.	US cts equiv.
Spot	306.45	503.50
3 months	310.75	509.95
6 months	315.35	516.70
1 year	324.50	530.05

Gold Coins	$ price	£ equiv.
Krugerrand	349-351	212-213
Maple Leaf		
New Sovereign	82-85	50-52

Precious Metals continued

GOLD COMEX (100 Troy oz.; $/troy oz.)

	Latest price	Day's change	High	low	Vol	Open int
Apr	350.0	-1.0	351.6	349.2	2,547	2,322
May	352.3	-	-	-	2	-
Jun	353.2	-0.8	354.4	352.2	27,609	66,071
Aug	356.0	-0.8	356.8	355.0	198	13,199
Oct	358.9	-	358.9	358.4	37	5,857
Dec	361.8	-0.4	361.9	361.5	188	21,731
Total					30,846	151,589

PLATINUM NYMEX (50 Troy oz.; $/troy oz.)

	Latest price	Day's change	High	low	Vol	Open int
Apr	368.5	-0.3	370.0	368.5	2,707	3,464
Jul	373.5	+1.2	374.9	372.0	6,476	10,458
Oct	376.5	-	376.5	376.5	171	2,032
Jan	377.2	+0.3	377.2	377.2	8	1,147
Total					9,365	17,446

PALLADIUM NYMEX (100 Troy oz.; $/troy oz.)

	Latest price	Day's change	High	low	Vol	Open int
Jun	150.25	+2.55	150.45	147.70	286	7,937
Sep	148.20	-	-	-	13	1,764
Dec	150.00	-	150.00	150.00	-	190
Total					299	9,882

SILVER COMEX (5,000 Troy oz.; Cents/troy oz.)

	Latest price	Day's change	High	low	Vol	Open int
May	502.5	-5.0	508.5	501.5	22,717	53,800
Jul	507.5	-5.0	512.5	507.0	4,796	19,777
Sep	514.0	-3.5	518.0	514.0	107	3,400
Dec	521.0	-4.3	524.5	520.0	86	5,232
Jan	527.0	-	-	-	1	14
Mar	533.5	-	533.5	533.5	8	5,366
Total					27,752	91,324

ENERGY

CRUDE OIL NYMEX (1,000 barrels, $/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
May	20.44	+0.03	20.65	20.25	32,061	90,245
Jun	20.43	+0.01	20.62	20.26	10,825	61,571
Jul	20.43	+0.05	20.56	20.28	4,375	29,556
Aug	20.47	+0.13	20.49	20.33	1,701	22,292
Sep	20.35	+0.03	20.35	20.32	515	13,916
Oct	20.35	+0.05	20.35	20.34	540	14,046
Total					55,775	398,988

CRUDE OIL IPE ($/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
May	19.13	-0.25	19.27	19.01	20,565	56,485
Jun	19.28	-0.20	19.39	19.15	5,652	39,253
Jul	19.27	-0.20	19.40	19.19	1,315	16,239
Aug	19.29	-0.18	19.39	19.25	671	8,115
Sep	19.40	-0.06	19.40	19.31	31	6,657
Oct	19.39	-0.05	19.39	19.30	45	5,280
Total					na	na

HEATING OIL NYMEX (42,000 US galls; c/US galls)

	Latest price	Day's change	High	Low	Vol	Open int
May	54.30	-0.12	54.75	54.25	16,360	34,960
Jun	54.30	-0.07	54.60	54.25	3,788	16,932
Jul	54.75	+0.03	55.05	54.75	1,559	14,741
Aug	55.45	+0.18	55.75	55.30	345	8,742
Sep	56.25	+0.28	56.70	56.25	513	5,108
Oct	57.20	+0.53	57.20	57.20	410	6,187
Total					43,558	123,833

GAS OIL IPE ($/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Apr	165.50	-1.25	167.00	165.25	4,810	22,101
May	167.50	-1.50	168.75	166.75	2,672	12,052
Jun	168.50	-1.50	170.00	168.25	997	11,006
Jul	171.75	-1.25	172.25	171.50	409	4,445
Aug	173.75	-1.00	174.00	173.00	250	2,256
Sep	175.75	-0.75	175.75	175.75	78	1,529
Total					10,069	66,309

NATURAL GAS NYMEX (10,000 mmBtu; $/mmBtu)

	Latest price	Day's change	High	Low	Vol	Open int
May	1.805	-0.021	1.990	1.900	7,859	30,773
Jun	1.955	-0.013	1.990	1.950	2,116	15,501
Jul	1.970	-0.010	1.995	1.965	1,332	12,465
Aug	1.980	-0.013	2.005	1.980	446	9,709
Sep	1.990	-0.010	2.010	1.990	836	8,858
Oct	2.030	-0.008	2.040	2.030	377	10,680
Total					15,073	166,038

UNLEADED GASOLINE NYMEX (42,000 US gals.; c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
May	63.30	+0.88	63.75	63.05	14,340	42,717
Jun	62.85	+0.13	63.30	62.60	2,138	21,243
Jul	62.20	+0.28	62.60	62.00	726	10,000
Aug	61.10	+0.38	61.40	61.00	226	5,317
Sep	59.90	+0.63	59.90	59.30	282	2,670
Oct	58.50	+0.58	-	-	231	1,337
Total					33,630	91,273

GRAINS AND OIL SEEDS

WHEAT LIFFE (£ per tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	102.00	+0.40	102.85	101.80	129	3,005
Jul	104.75	+0.85	104.75	104.50	69	1,333
Sep	98.75	+1.50	98.30	98.25	6	45
Nov	100.75	+1.50	101.00	99.75	274	2,243
Jan	102.75	+1.50	103.00	101.65	143	643
Mar	104.75	+1.50	104.35	104.35	20	204
Total					641	7,473

WHEAT CBT (5,000bu min; cents/60lb bushel)

	Latest price	Day's change	High	Low	Vol	Open int
May	401.50	+4.00	407.00	397.50	5,181	26,883
Jul	399.00	+5.00	404.50	395.00	12,758	42,325
Sep	395.50	+1.00	407.00	394.50	655	6,713
Dec	409.50	+3.50	415.00	403.00	872	6,573
Mar	408.00	+5.00	408.00	403.00	59	108
Jul	372.00	-	-	-	-	182
Total					28,763	84,405

MAIZE CBT (5,000 bu min; cents/56lb bushel)

	Latest price	Day's change	High	Low	Vol	Open int
May	314.25	+4.25	320.00	308.50	32,079	142,224
Jul	315.50	+5.25	320.75	311.75	24,013	111,290
Sep	296.50	+2.00	300.50	293.50	1,993	18,438
Dec	292.00	+0.50	298.00	289.50	16,247	88,836
Mar	296.50	+0.50	301.50	296.00	679	9,053
May	298.50	-	298.50	298.00	26	382
Total					85,347	376,846

BARLEY LIFFE (£ per tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	94.50	+1.50	94.50	94.50	5	133
Sep	95.50	+1.25	-	-	-	36
Nov	97.50	+1.25	97.50	97.00	68	603
Jan	99.50	+1.25	-	-	-	38
Mar	101.50	+1.25	-	-	-	-
May	103.50	-	-	-	-	-
Total					73	810

SOYABEANS CBT (5,000bu min; cents/60lb bushel)

	Latest price	Day's change	High	Low	Vol	Open int
May	879.00	+23.25	885.75	854.00	27,033	73,385
Jul	882.00	+24.00	888.00	856.00	12,643	59,727
Aug	858.00	+23.50	864.50	832.50	950	8,757
Sep	767.00	+13.00	779.00	757.00	589	5,527
Nov	700.00	+7.00	713.00	693.50	11,342	35,129
Jan	706.00	+7.00	710.00	706.00	167	2,015
Total					57,123	185,449

SOYABEAN OIL CBT (60,000lbs; cents/lb)

	Latest price	Day's change	High	Low	Vol	Open int
May	24.33	+0.41	24.63	24.00	6,871	39,293
Jul	24.69	+0.40	24.99	24.69	5,831	30,223
Aug	24.95	+0.47	25.15	24.50	421	6,601
Sep	24.95	+0.34	25.05	24.66	397	3,868
Oct	25.00	+0.27	25.20	24.73	930	3,818
Dec	25.30	+0.36	25.50	25.20	1,857	11,300
Total					17,818	97,302

SOYABEAN MEAL CBT (100 tons; $/ton)

	Latest price	Day's change	High	Low	Vol	Open int
May	292.0	+9.0	293.0	279.5	7,508	46,031
Jul	289.3	+9.6	289.7	278.7	4,256	28,879
Aug	276.5	+8.2	278.3	267.0	487	8,624
Sep	255.5	+6.5	259.0	249.5	397	6,199
Oct	228.5	+3.5	230.0	228.0	1,361	4,852
Dec	219.5	+2.3	224.0	219.5	1,409	9,788
Total					17,856	107,197

POTATOES LIFFE (£/tonne)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	32.0	-2.0	35.0	31.0	39	427
May	46.0	+1.0	-	-	-	387
Jun	66.0	+1.0	-	-	-	-
Nov	65.0	-	-	-	-	12
Mar	116.5	+3.5	116.3	114.0	21	731
Apr	[illegible]					
Total					60	1,597

FREIGHT (BIFFEX) LIFFE ($10/index point)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	1560	-15	1570	1558	34	1,068
May	1615	-10	1550	1550	4	872
Jul	1280	-25	1395	1285	6	775
Oct	1350	-22	-	-	-	321
Jan	1420	-	-	-	-	47
Apr	1430	-	-	-	-	-
Total					44	3,083

	Close	Prev
BFI	1596	1513

FUTURES DATA
All futures data supplied by CMS.

SOFTS

COCOA LIFFE (£/tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	1017	-	1019	1007	1,358	28,879
Jul	1030	-2	1032	1022	278	15,704
Sep	1041	-1	1041	1034	364	12,112
Dec	1030	+2	1033	1024	1,815	24,909
Mar	1046	+4	1046	1046	50	23,875
Total					7,001	132,474

COCOA CSCE (10 tonnes; $/tonnes)

	Latest price	Day's change	High	Low	Vol	Open int
May	1466	+13	1468	1440	3,886	29,669
Jul	1495	+13	1497	1471	959	23,057
Sep	1517	+9	1519	1497	244	11,983
Dec	1531	+7	1536	1514	229	9,594
Mar	1555	+3	-	-	-	19,017
May	1560	-10	-	-	367	7,315
Total					5,285	101,742

COCOA (ICCO) (SDR's/tonne)

Mar 31	Price	Prev. day
Daily	na	1137.17

COFFEE LIFFE ($/tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	1614	-21	1660	1612	1,413	20,334
Jul	1622	-21	1660	1621	1,280	12,873
Sep	1630	-23	1667	1630	466	7,652
Nov	1625	-18	1658	1625	143	2,884
Jan	1600	-23	1631	1600	77	749
Mar	1585	-23	-	-	-	85
Total					3,369	44,367

COFFEE 'C' CSCE (37,500lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	186.70	-4.45	191.25	186.00	3,788	17,386
Jul	170.50	-3.85	174.00	170.25	1,785	8,883
Sep	158.50	-2.20	161.00	158.10	574	6,387
Dec	144.50	-1.50	146.00	144.00	288	3,566
Mar	134.25	-2.75	136.50	133.50	84	1,081
May	130.00	-0.50	-	-	2	226
Total					6,521	37,435

COFFEE (ICO) (US cents/pound)

Mar 31		Prev. day
Comp. daily	139.38	138.68
15 day average	135.83	135.92

WHITE SUGAR LIFFE ($/tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	309.0	+3.2	309.0	306.1	1,541	14,541
Aug	308.0	+2.5	308.0	305.8	722	5,855
Oct	304.1	+2.1	304.1	302.3	11	3,471
Dec	302.5	-	-	-	-	954
Mar	300.8	-	-	-	-	501
May	301.1	-	-	-	-	154
Total					na	na

SUGAR '11' CSCE (112,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	10.97	+0.18	11.01	10.78	3,094	58,478
Jul	10.69	+0.11	10.73	10.58	2,031	35,971
Oct	10.58	-	10.58	10.48	806	28,533
Mar	10.56	+0.07	10.56	10.48	433	14,898
May	10.55	-	-	-	47	3,150
Jul	10.55	+0.06	10.55	10.55	1	1,445
Total					6,389	142,865

COTTON NYCE (50,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	71.66	+0.33	71.85	71.37	8,349	34,074
Jul	73.16	+0.21	73.48	72.80	4,908	17,157
Oct	74.95	-	75.00	74.80	381	1,959
Dec	76.15	-0.25	-	-	174	2,212
Mar	77.00	-0.03	77.00	77.00	59	545
Total					17,781	78,245

ORANGE JUICE NYCE (15,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	78.45	+0.10	78.75	78.50	4,787	13,709
Jul	78.60	+0.35	78.80	77.50	1,263	7,117
Sep	81.30	-	81.50	80.35	310	4,107
Nov	[illegible]					
Jan	86.25	+0.70	86.25	83.40	58	710
Mar	87.55	-	-	-	44	376
Total					6,913	27,867

MEAT AND LIVESTOCK

LIVE CATTLE CME (40,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	68.325	-0.100	68.725	68.100	5,980	26,100
Jun	64.825	-0.250	65.050	64.700	7,058	30,611
Aug	63.725	-0.125	63.850	63.600	2,076	22,705
Oct	67.525	+0.050	67.700	67.425	1,576	15,034
Dec	68.500	-0.025	68.675	68.400	685	7,457
Feb	70.375	-0.175	70.600	70.375	1,042	4,262
Total					18,424	106,858

LEAN HOGS CME (40,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	72.400	-0.575	72.800	72.250	3,193	6,175
Jun	80.975	-0.900	81.750	80.850	5,171	13,769
Jul	80.900	-0.600	81.500	80.700	1,654	3,396
Aug	78.300	-0.400	78.750	78.050	1,142	2,689
Oct	71.700	-0.150	71.825	71.350	479	2,234
Dec	69.800	-0.125	69.700	69.350	262	1,497
Total					12,088	30,582

PORK BELLIES CME (40,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	78.400	+1.350	80.000	78.500	1,946	4,133
Jul	78.400	+1.650	78.925	77.600	697	2,169
Aug	75.800	+1.150	76.400	75.000	95	535
Feb	70.700	-0.200	70.800	70.700	9	95
Mar	68.200	-	-	-	1	8
Total					2,769	6,940

LONDON TRADED OPTIONS

Strike price $ tonne	Calls		Puts	
ALUMINIUM (99.7%) LME	May	Aug	May	Aug
1550	77	119	10	27
1600	44	87	26	44
1650	21	61	53	67
COPPER (Grade A) LME	May	Aug	May	Aug
2250	175	124	8	78
2350	97	78	29	129
2450	43	48	74	195
COFFEE LIFFE	May	Jul	May	Jul
1600	61	149	47	127
1650	38	127	74	155
1700	23	105	109	186
COCOA LIFFE	May	Jul	May	Jul
1000	30	67	13	37
1025	18	54	26	49
1050	10	45	43	65
BRENT CRUDE IPE	May	Jun	May	Jun
1900	-	-	-	-
1950	-	-	-	-
2000	13	47	-	-

LONDON SPOT MARKETS

CRUDE OIL FOB (per barrel)

		+or-
Dubai	$17.47-7.57w	-0.675
Brent Blend (dated)	$18.22-8.23	-0.335
Brent Blend (May)	$19.10-9.11	-0.305
W.T.I.	$20.48-0.49w	-0.335

OIL PRODUCTS NWE prompt delivery CIF (tonne)

Premium Gasoline	$211-213	-3
Gas Oil	$167-169	-2.5
Heavy Fuel Oil	$80-82	-1
Naphtha	$189-190	
Jet fuel	$186-189	-2
Diesel	$176-178	-1

NATURAL GAS (Pence/therm)

Bacton (May)	10.1-10.3	-0.05
Petroleum Argus. Tel: London (0171) 359 8792		

OTHER

Gold (per troy oz)♣	$350.65	+2.70
Silver (per troy oz)♣	504.00c	-13.00
Platinum (per troy oz.)	$368.00	-5.50
Palladium (per troy oz.)	$145.75	-0.75
Copper	120.0c	+2.0
Lead (US prod.)	45.00c	
Tin (Kuala Lumpur)	14.22r	+0.07
Tin (New York)	273.50	+3.0
Cattle (live weight)	97.61p	+0.42*
Sheep (live weight)	147.76p	+0.03*
Pigs (live weight)	84.42p	+2.49*
Lon. day sugar (raw)	$287.10	-1.30
Lon. day sugar (wte)	$307.40	-1.60
Barley (Eng. feed)	Unq	
Maize (US No3 Yellow)	£109.00	
Wheat (US Dark North)	Unq	
Rubber (May)♥	78.00p	
Rubber (Jun)♥	78.00p	
Rubber (KL RSS No1)	299.0m	
Coconut Oil (Phil)§	735.0y	-2.5
Palm Oil (Malay.)§	580.0z	+20.0
Copra (Phil)§	480.0y	
Soyabeans (US)	229.0	
Cotton Outlook 'A' Index	78.15c	-0.85
Wooltops (64s Super)	415p	

£ per tonne unless otherwise stated. p pence/kg. c cents/lb. r ringgit/kg. m Malaysian cents/kg. y May z Apr ♥ Apr/May ♣ London Physical. § CIF Rotterdam. ♣ Bullion market close. * Change on week. † Based on 1,600 head of pigs sold.

Minor metals

European free market, from Metal Bulletin. Prices from the end of last week because of bank holidays, $ per lb in warehouse, unless otherwise stated (previous in brackets, where changed). Antimony: 99.6%, $ per tonne, 2,125-2,235 (2,100-2,200). Bismuth: min. 99.99%, tonne lots 2.90-3.15. Cadmium: min. 99.95%, cents a pound, 55.00-65.00 (60.00-70.00). Cobalt: MB free market, min. 99.8%, 20.25-21.50 (19.70-20.80); min. 99.3%, 19.25-19.85 (18.00-19.50). Mercury: min. 99.99%, $ per 76 lb flask, 161-171. Molybdenum: drummed molybdic oxide, 4.45-4.60. Selenium: min 99.5%, 2.35-3.10 (2.30-3.10). Tungsten ore: standard min. 65%, $ per tonne unit (10kg) WO_3, cif, 45-55. Vanadium: min. 98%, cif, 3.90-4.05 (3.90-4.05). Uranium: Nuexco unrestricted exchange value, 12.25.

VOLUME DATA

Open interest and Volume data shown for contracts traded on COMEX, NYMEX, CBT, NYCE, CME, CSCE and IPE Crude Oil are one day in arrears. Volume & Open interest totals are for all traded months.

INDICES

REUTERS (Base: 18/9/31 = 100)

Apr 1	Mar 27	month ago	year ago
1982.8	1987.1	1990.2	2111.7

CRB Futures (Base: 1967 = 100)

Mar 31	Mar 27	month ago	year ago
245.17	245.60		

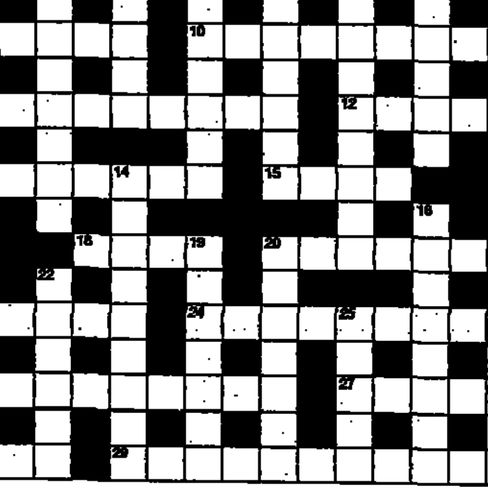
GSCI Spot (Base: 1970 = 100)

Mar 31	Mar 27	month ago	year ago
192.43	193.44	186.82	208.66

JOTTER PAD

CROSSWORD

No.9,338 Set by DARCY



ACROSS

1 Set of cards in good suit in the box (7-4)
7 Doctor beginning to berate unruly crowd (3)
9 A bit of a telling-off, in a manner of speaking (5)
10 Reserve centre blunders round rink (9)
11 Act's old hat – fans may go through it (9)
12 Bale out, caught in European plane (5)
13 Can he turn out trendy, put in 3 down? (7)
15, 18 Xmas pudding, appearing very tasty, not very nice (4,4)
20 A lot of pot (7)
23 Trees badly clipped (5)
24 Air a preference for a double (9)
26 Move can start to generate financial planning (9)
27 Warning of some terrible episode (5)
28 First wife seen the day before (3)
29 28's first-born, maybe – is it he or she? (5,6)

DOWN

1 In short, ultimate prize – exceptional award for journalism (8)
2, 22 Dealer starts this, to reduce link between banks (8,6)
3 Perhaps Jeremy gets smoother (5)
4 I'd groan, unravelling type of knot (7)
5 Fool supports an urban Belgian community (7)
6 Previous scrutineer voiced chancellor's responsibility (9)
7, 16 Firm put under £500 in dubious dealings (6,8)
8 Puff, about to enter tub (6)
14 Fun's a necessity to entertain English chaps (9)
16 See 7 down
17 He was arrested as a child (5,3)
19 Got into line with one Italian director (7)
20 Sold, having taken a beating (7)
21 Some horses may be steady (6)
22 See 2 down
25 Take steps, lacking leadership (5)

Solution to Saturday's prize puzzle on Saturday April 12.
Solution to yesterday's prize puzzle on Monday April 14.

FT MANAGED FUNDS SERVICE

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

OFFSHORE AND OVERSEAS

BERMUDA (SIB RECOGNISED)

BERMUDA (REGULATED)(**)

GUERNSEY (SIB RECOGNISED)

GUERNSEY (REGULATED)(**)

IRELAND (SIB RECOGNISED)

IRELAND (REGULATED)(**)

ISLE OF MAN (SIB RECOGNISED)

ISLE OF MAN (REGULATED)(**)

JERSEY (REGULATED)(**)

JERSEY (SIB RECOGNISED)

LUXEMBOURG (SIB RECOGNISED)

FT MANAGED FUNDS SERVICE

Offshore Funds and Insurances

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

Abtrust Fund Mngrs Luxembourg SA (u)

4 Boulevard Royal L 2449 Luxembourg 00 352 227001

Abtrust Atlas Fund

	Init Charge	Selling Price	Buying Price	+ or -	Yield Gr's
Global Cap Portfolio		$3.842			-
United States Portfolio		$6.971			-
Contl Europe Portfolio		DM7.721			-
Japan Portfolio		¥0.554			-
Pacific Portfolio		$8.518			-
Gold Portfolio		$8.112			-
UK Growth of Income		£2.287			3.81
Dollar Portfolio		$1.890			7.03
Sterling Portfolio		£1.084			6.30

Aetna Master Fund (u) (x)

21 avenue de la Liberte, L-1931, Lux 00 352 2964 941

	Init Charge	Selling Price	Buying Price	+ or -	Yield Gr's
Australasian NAV		A$17.28		-0.02	-
Austrian Nat NAV		Sch67.91		-0.04	-
Belgo/Lux NAV		BFr905.30		-0.83	-
Dutch Nat NAV		Dfl48.05		-0.03	-
French Nat NAV		FFr150.26		-0.11	-
German Nat NAV		DM21.74		-0.01	-
Hongkong Nat NAV		HK$127.70		-0.07	-
Italian Nat NAV		L13408		-175	-
Japanese Nat NAV		Y1160		-2	-
Spanish Nat NAV		Pta7526		-7	-
UK Nat NAV		£11.15		-0.01	-
United States Dlr Res		$11.13		-	-

Prices quoted are "A" shares

American Phoenix Investment Portfolios (u)

13 rue Goethe, L-1637 Luxembourg 00 352 404648211

Fleming Group - Contd.

	Init Charge	Selling Price	Buying Price	+ or -	Yield Gr's
FFF Emerging Markets F		$10.25	10.85	-0.11	-
FFF European		DM42.77	45.25	-1.06	-
FFF Eurobond Sml Cov F		DM26.01	27.52	-0.27	-
FFF Global Conv F		$17.87	18.90	-0.15	-
FFF India H		$8.16	8.63	-0.06	-
FFF Intl Bond F		$13.44	14.22	+0.02	-
FFF Intl Equity F		DM77.49	81.97	-1.85	-
FFF Japanese		$14.03	14.85	-0.09	-
FFF Japanese Smaller Cos F		$5.43	5.74	-0.02	-
FFF Latin American		$13.13	13.89	-0.29	-
FFF Pacific		$20.86	22.07	-0.27	-
FFF Sterling Bond		£1.081	1.129	-0.002	7.50
FFF UK Enterprise		£5.46	5.77	-0.12	-
FFF US Discovery		$41.60	43.79	-0.63	-

Mercury Asset Management - Contd.

Midland Intl Circuit Fund SICAV(u)

Nikko Global Umbrella Fund

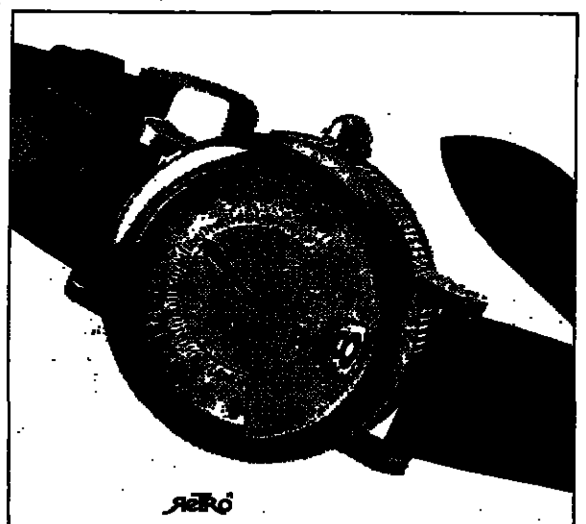
LUXEMBOURG (REGULATED)(**)

OFFSHORE INSURANCES

FT MANAGED FUNDS SERVICE

Offshore Insurances and Other Funds

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.



OTHER OFFSHORE FUNDS

LONDON SHARE SERVICE

ALCOHOLIC BEVERAGES

[illegible]

BANKS, RETAIL

[illegible]

BREWERIES, PUBS & REST

[illegible]

BUILDING & CONSTRUCTION

[illegible]

BUILDING MATS. & MERCHANTS

[illegible]

CHEMICALS

[illegible]

CHEMICALS - Cont.

[illegible]

DISTRIBUTORS

[illegible]

DIVERSIFIED INDUSTRIALS

[illegible]

ELECTRICITY

[illegible]

ELECTRONIC & ELECTRICAL EQPT

[illegible]

ENGINEERING

[illegible]

ENGINEERING - Cont.

[illegible]

ENGINEERING - Cont.

[illegible]

ENGINEERING, VEHICLES

[illegible]

EXTRACTIVE INDUSTRIES

[illegible]

EXTRACTIVE INDUSTRIES - Cont.

[illegible]

FOOD PRODUCERS

[illegible]

GAS DISTRIBUTION

[illegible]

HEALTH CARE

[illegible]

HOUSEHOLD GOODS

[illegible]

INSURANCE

[illegible]

INSURANCE - Cont.

[illegible]

INVESTMENT TRUSTS

[illegible]

INVESTMENT TRUSTS - Cont.

[illegible]

INV TRUSTS SPLIT CAPITAL

[illegible]

LONDON SHARE SERVICE

INV TRUSTS SPLIT CAPITAL - Cont.

[illegible]

OTHER INVESTMENT TRUSTS

[illegible]

INVESTMENT COMPANIES

[illegible]

LEISURE & HOTELS

[illegible]

LIFE ASSURANCE

[illegible]

MEDIA

[illegible]

MEDIA - Cont.

[illegible]

OIL EXPLORATION & PRODUCTION

[illegible]

OIL, INTEGRATED

[illegible]

OTHER FINANCIAL

[illegible]

PAPER, PACKAGING & PRINTING

[illegible]

PHARMACEUTICALS

[illegible]

PROPERTY

[illegible]

PROPERTY - Cont.

[illegible]

RETAILERS, FOOD

[illegible]

RETAILERS, GENERAL

[illegible]

RETAILERS, GENERAL - Cont.

[illegible]

SUPPORT SERVICES

[illegible]

SUPPORT SERVICES - Cont.

[illegible]

TELECOMMUNICATIONS

[illegible]

TEXTILES & APPAREL

[illegible]

TEXTILES & APPAREL - Cont.

[illegible]

TOBACCO

[illegible]

TRANSPORT

[illegible]

WATER

[illegible]

AIM

[illegible]

AIM - Cont.

[illegible]

The Alternative Investment Market, designed primarily for small companies, is regulated by the London Stock Exchange but has less demanding rules than the SE Official List.

AMERICANS

[illegible]

CANADIANS

[illegible]

SOUTH AFRICANS

[illegible]

GUIDE TO LONDON SHARE SERVICE

[illegible]

Abbreviations: xd ex dividend. xc ex scrip issue. xr ex rights. xa ex all. xp ex capital distribution.

This service is available to companies whose shares are regularly traded in the United Kingdom for a fee of £1425 a year for each security shown, subject to the Editor's discretion.

♣ FT Free Annual Reports Service

You can obtain the current annual/interim report of any company annotated with ♣. Please quote the code FT3439. Ring 0181 770 0770 (open 24 hours including weekends) or Fax 0181 770 3822. *Reports will be sent the next working day,* subject to availability.

FT Company Focus / Focus Plus

Comprehensive 10-18 page report available on this company, *containing key news stories from* the last year, latest survey of City profit forecasts and investment recommendations, 5 year financial and share price performance review, balance sheet and profit and loss data, plus recent Stock Exchange announcements.

Company Focus (FT news) £8.45.

Focus Plus (FT and Investors Chronicle news) £10.95.

To order, call 0121 200 4678.

Reports published by ShareFinder.

FT Cityline

Up-to-the-second share prices are available by telephone from the *FT Cityline service. See* Monday's share price pages for details.

Calls are charged at 50p per minute at all times.

An international service is available for callers outside the UK, annual subscription £250 stg.

Call 0171 873 4378 for more information on FT Cityline.

The share prices printed on these pages are also available on the Internet at http://www.FT.com.

LONDON STOCK EXCHANGE

FTSE 100 closes well above session low

MARKETS REPORT

By Steve Thompson, UK Stock Market Editor

There were no prizes yesterday for guessing which way London and the rest of Europe's stock markets would go in the wake of Wall Street's 4.3 per cent reversal on Thursday and Monday. On those two days, the Dow Jones Industrial Average lost 140 and 157 points respectively.

London managed its retreat in classic fashion with marketmakers adopting their usual defensive stances, hitting quotations at the start of the day to head off any big sellers and then nudging prices higher to encourage a rally.

In the event, they were successful and all the main indices closed well above the day's lowest levels.

The FTSE 100 index finished the day 64.8 lower at 4,248.1, fighting off a determined attack on the 4,200 level during the first frantic minutes of the session. At its worst, the FTSE was down 112.4 at 4,200.5. The FTSE 250 closed 78.8 weaker at 4,497.4 while the SmallCap settled 33.4 off at 2,280.3.

Wall Street's sell-off took place as international investors fretted about the possibility that last week's 25 basis points rise in US interest rates might be the first in a series of shifts to hit US corporate profits.

Senior marketmakers said the big investing institutions had not begun a large-scale selling programme and were put off by the big mark-down.

"We were concerned by the pressure exerted on the future during the early part of the day, but once that lifted, sentiment began to improve," said one leading trader. The future settled at a small discount to the cash market, encouraging a flurry of bear closing just before London closed.

The day's economic news led to activity in both directions. The UK Purchasing Managers' Index for March came in below consensus and did no damage to a gilts market suffering from the weakness of the US bond market during the Easter holiday.

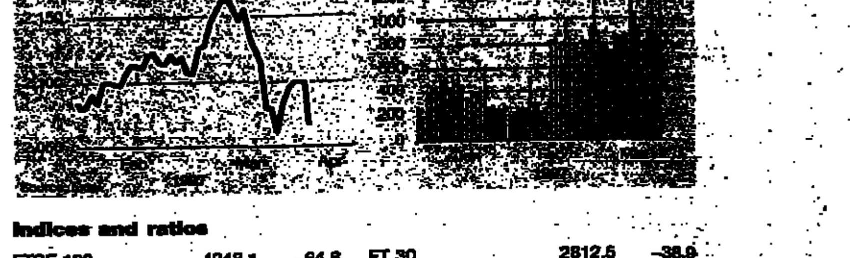
US news was mixed. The NAPM figure was stronger than expected, although the prices-paid element was well received, as was US construction spending and the leading indicators.

The overall impression was that London and the rest of Europe had ridden out the storm that started in New York and European markets were likely to stabilise in the short term.

However, the head of global trading at one of the biggest European investment banks said that while London had shaken off the worst of the US-inspired weakness, there were plenty more hurdles to face in the short term. These included the general election and the expected rise in UK interest rates which many observers see as inevitable whoever wins the election.

There was very little joy for the market's big trading houses, who are believed to have absorbed further losses on their trading books during the most recent bout of turbulence in the market.

Turnover was disappointing given the gyrations in share prices. At 6pm, 650.8m shares had changed hands.



Indices and ratios

FTSE 100	4248.1	-64.8	FT 30	2812.5	-38.9
FTSE 250	4497.4	-78.8	FTSE Non-Fins p/e	17.88	18.15
FTSE 350	2095.2	-32.9	FTSE100 Fut Jun	4265.0	-48.0
FTSE All-Share	2067.37	-32.33	10 yr Gilt yield	7.75	7.66
FTSE All-Share yield	3.69	3.64	Long gilt/equity yld ratio	2.10	2.10

Best performing sectors

1 Gas Distribution .... -0.6
2 Property .... -0.6
3 Breweries:Pubs .... -0.6
4 Water .... -0.7
5 Electronic & Elect .... -0.7

Worst performing sectors

1 Telecommunications .... -2.5
2 Investment Trusts .... -2.2
3 Diversified Ind .... -2.1
4 Alcoholic Beverages .... -2.1
5 Paper:Pckg & Print .... -2.1

Buyers in for utilities

By Peter John, Gary Mead and Richard Lapper

Utilities, traditionally the most politically sensitive area of the market, were surprisingly robust yesterday.

This week sees the start of full-blooded election campaigning, but water, electricity, and gas stocks have seen their prices fall so far in anticipation of a Labour victory, and subsequent windfall tax on profits, that they are providing significantly stronger yields than they were at the last general election.

Williams de Broe has argued that "even under Labour, double-digit real annual dividend increases should be expected over the medium term".

And Mr Philip Hollobone, de Broe's utilities' specialist, said yesterday that water stocks were on a yield relative of 164 against the broad market compared with 139 last time, while electricity was on 166 compared with 113 last time and gas 215 against 141.

United Utilities, which combines both water and gas, was up 3 at best before closing marginally stronger at 628½p.

Among the second-liners Scottish Hydro lifted 2 to 363p and Yorkshire Electricity a penny to 923p.

Two big media stocks, EMI and Pearson, stood out against the general rout as selected news reports mingled with some difficult technical situations.

Music publisher EMI topped the list of Footsie performers with a gain of 29 to £11.44p. Some traders linked the gain to a report that supermarket sales of videos were bounding forward. But the report by the Corporate Intelligence on Retailing, a research consultancy, appeared to be a slim reason for moving the price of an internationally traded company upwards on a day when most European bourses were reacting to the sharp falls on Wall Street.

Similarly, the launch of Channel 5, in which Pearson is an investor, was a thin argument for pushing the media conglomerate's stock up 14¼ to 743½p.

But dealers also noted some aggressive bidding by one leading UK investment bank. This may have been part of a market-wide arbitrage as the investment bank was seen on the bid in an extensive range of Footsie stocks at least three times during the day.

It was suggested that there may already have been short positions in Pearson and EMI and the aggressive bidding prompted rival dealers to mark prices higher.

Leading internationally traded stocks suffered badly in the wake of yesterday's Europe-wide market slides. Hanson fell 14 to 272p, BT 17¼ to 428p, Reuters 22½ to 596½p and SmithKline Beecham 32½ to 870½p.

However, BP held up relatively well as IBCA, the credit-rating agency, assigned an A1 plus short-term rating and AA long-term rating to the company. The shares ended the day only a penny lower at 705½p.

In the financial sector, HSBC was roughly handled, reflecting its exposure to the dollar and dollar-linked markets as well as a sharp overnight fall in the Hong Kong stock market.

The Hang Seng index posted a loss of 3.67 per cent, mainly on the back of US rate fears. HSBC UK registered stock eased 44½ to £14.49½p, a decline of just over 3 per cent.

Royal Bank of Scotland was also a poor performer, dropping 13 to 524p. ABN Amro Hoare Govett said it had downgraded its profit forecast for the year to September by £25m to £750m. Mr Peter Toeman, analyst at ABN Amro, said the forecast cut had been made partly to reflect the fact that expenses are higher than at other clearing banks.

Abbey National fell 6 to 739p despite a positive note from Merrill Lynch. Mr Simon Price, banking analyst at Merrill, said that the bank had not been given enough credit for its diversification, especially into the life insurance business.

Barclays and Lloyds TSB both fell back losing 8 and 1½ to £10.13p and 498p respectively.

National Westminster Bank bucked the trend in the sector gaining 7 to 693½p, the fourth-best performance of any FTSE stock. Analysts said the share's relatively high dividend yield had provided some support.

Composite and life insurers also moved gently lower. General Accident dropped 13 to 805p, Royal Sun Alliance 9 to 438p, and Commercial Union 6 to 665½p. Guardian Royal Exchange ended 2½ lower at 278½p. Prudential closed down 5½ at 561½p and Legal & General lost 5½ at 384½p.

Retail and food sectors were relatively unaffected by the lowered overall market yesterday, with analysts pointing out that the sectors have been underperforming in recent weeks. One specialist attributed the relative buoyancy of the sectors to the fact that "they have some classic defensive stocks".

Kingfisher proved an exception, having started the day at 700½p and falling to 675½p, although 14p of that was accounted for by the stock going ex-dividend.

Among the chain stores, Carpetright started at 533p, but dropped to 512½p, and DFS was down 30 570½p. MFI improved from an opening of 144p to 147½p, which analysts speculated might indicate strengthening confidence on the back of the Easter weekend, a peak time for DIY.

Next started at 623½p, but closed down 25½p at 598½p. WH Smith fell 6½p to 443p.

Among the food producing companies, the mood was generally tranquil too, with most prices static. Against that general trend, Unilever was down 43½ to £15.71½p. Tate & Lyle slipped 4 to 430p, Dalgety closed down 13 at 340½p,and Hillsdown fell 1½ to 191½p. Against the generally cautious mood, United Biscuits gained 2½ to 234½p.

P&O, the cruise liner and cross-channel ferry group, drifted 7½ to 611p with Charterhouse Tilney said to have taken some of the steam out of the share price with a sell note.

Rolls-Royce improved 2½ to 230½p with an announcement that the aerospace group has received an order with a potential value of $240m for RB211-535 engines to power up to 16 additional Continental Airlines Boeing 757 aircraft.

Amstrad jumped 21½ to 221½p on news that the electronic goods maker has conditionally agreed to sell Dancall Telecom to Bosch Telecom for £92m and expectations that it will return cash to shareholders.

Recent denials that a takeover is in the offing took some of the pzazz of Pizza-Express. The shares subsided 45½ to 684p.

Reunion Mining jumped 12½ to 138p after an upbeat statement.

FT 30 INDEX

	Apr 01	Mar 27	Mar 26	Mar 25	Mar 24	Yr ago	*High	*Low
FT 30	2812.5	2851.4	2846.1	2823.1	2788.9	2796.5	2931.4	2762.5
Ord. div. yield	3.95	3.89	3.90	3.93	4.05	3.88	4.18	3.84
P/E ratio net	16.82	17.06	17.01	16.90	17.15	16.66	18.09	16.82
P/E ratio nil	16.65	16.88	16.84	16.73	16.94	16.34	17.87	16.65

FT 30 since compilation: high 2931.4 10/03/97; low 49.4 26/06/40. Base Date: 1/7/35.

FT 30 hourly changes

Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	High	Low
2779.5	2791.6	2792.3	2794.4	2796.8	2802.2	2808.3	2805.4	2802.3	2812.7	2778.6

	Apr 01	Mar 27	Mar 26	Mar 25	Mar 24	Yr ago
SEAQ bargains	57,809	58,547	63,912	65,045	60,364	52,469
Equity turnover (£m)†	-	NA	NA	2813.9	3032.5	2083.3
Equity bargains†	-	NA	NA	65,520	58,298	61,395
Shares traded (mi)†	-	NA	NA	1149.2	913.1	770.8

†Excluding intra-market and overseas turnover but including Crest turnover.

	Apr 01	Mar 27	Mar 26	Mar 25	Mar 24	Yr ago	*High	*Low
FTSE AIM	1094.9	1109.3	1110.6	1110.0	1110.2	990.7	1138.0	1040.5

 *For 1997.

London market data

Rises and falls*		52 Week highs and lows		LIFFE Equity options	
Total Rises	112	Total Highs	23	Total contracts	26,413
Total Falls	1,808	Total Lows	206	Calls	11,065
Same	504			Puts	15,348

Apr 1 *Data based on Equity shares listed on the London Share Service.

FUTURES AND OPTIONS

FTSE 100 INDEX FUTURES (LIFFE) £25 per full index point (APT)

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	4210.0	4265.0	-48.0	4282.0	4201.0	17891	59988
Sep	-	4290.0	-48.0	-	-	0	2495

FTSE 250 INDEX FUTURES (LIFFE) £10 per full index point

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	4505.0	4505.0	-75.0	4505.0	4505.0	100	4858

FTSE 100 INDEX OPTION (LIFFE) (*4231) £10 per full index point

	4050 C	4050 P	4100 C	4100 P	4150 C	4150 P	4200 C	4200 P	4250 C	4250 P	4300 C	4300 P	4350 C	4350 P	4400 C	4400 P
Apr	201½	9	157	15	116	23	80	37	50½	57	28	86	13	123½	5	169
May	227	34½	190½	44½	161½	56½	127½	72½	97½	92	72	118	50½	147½	34½	184½
Jun	267	56	229	67½	192½	80½	161	100	130½	118½	105	142½	82½	170	61	201
Jul	279	66	245½	79	212½	93	179	109½	153	133	127	157½	102	185	83	218
Dec†			349½	136½			283½	169			225½	210			173½	260

Calls 2,877 Puts 7,364

EURO STYLE FTSE 100 INDEX OPTION (LIFFE) £10 per full index point

	4075 C	4075 P	4125 C	4125 P	4175 C	4175 P	4225 C	4225 P	4275 C	4275 P	4325 C	4325 P	4375 C	4375 P	4425 C	4425 P
Apr	181	13	138	19	98	29½	64	45	38	69	20	100½	9	140	4	184½
May	218	38	179	49	143½	63	111	80½	83	101½	58	127½	40	158	25½	193½
Jun	247½	60	211	73	177	88	145	105½	116½	126½	91½	150½	69½	178	51½	209
Sep			271½	111			208½	145			154	186			107½	239
Dec†			335½	139			271½	171			215	210			180	257

Calls 3,226 Puts 4,590 * Underlying index value. Premiums shown are based on settlement prices. † Long dated expiry months.

LONDON RECENT ISSUES: EQUITIES

Issue price p	Amt paid up	Mkt. cap (£m.)	1997 High	1997 Low	Stock	Close price p	+/-	Net div.	Div. cov.	Grs yld	P/E net
§100	F.P.	25.0	100	99	Aurora Inv Trust	100		-	-	-	-
§100	F.P.	78.9	103½	103½	†Avalon Oil	103½		-	-	-	-
-	F.P.	-	142½	124	Avis Europe	128	-4½	-	-	-	-
§50	F.P.	22.8	64	42½	†Birmingham City	45½	-1	-	-	-	-
§500	F.P.	128.1	620	580	Cambridge Antibody	587	-5	-	-	-	-
§-	F.P.	13.7	65	55	†Charlton Athltc	62½	-2	-	-	-	-
§-	F.P.	54.4	335	290	Diagonal	294	-7	-	-	-	38.2
§200	F.P.	12.2	270	240	†Dobbies Garden	260		L4.5	2.2	2.2	16.4
§-	F.P.	10.8	71½	70½	Donatantonio	71	-½	L2.25	1.7	4.0	13.0
§180	F.P.	24.7	189½	178½	Glovand Cah Sys	189½	+1	-	-	-	-
§175	F.P.	25.8	212½	198	Heal's	212½		L3.9	3.1	2.3	15.5
§100	F.P.	19.8	130½	119½	Helphire Group	120	-4	R0.8	5.1	0.8	14.7
§195	F.P.	108.3	247½	235½	KBC Advanced Tc	236½	-3½	L3.29	2.5	1.7	26.1
§200	F.P.	66.4	280½	259	London Bridge Sw	282½	+2½	-	-	-	34.2
§	F.P.	13.8	69½	68½	M & G High Inc	68½		W5.2	-	9.5	-
§	F.P.	1.82	10	9	M & G High Cap	9		-	-	-	-
§17	F.P.	2.52	23½	17½	Pathfinder Props	23½	+6	-	-	-	-
§-	F.P.	3.15	3	2½	†Prestbury Leisur	2½	-¼	L0.32	5.4	16.0	10.1
§	F.P.	59.4	292½	220	PSD Group	245½	-12	5.43	2.4	2.8	19.1
§-	F.P.	19.6	122½	117½	†O Group	117½	-2½	-	-	-	-
§100	F.P.	29.9	100	98	River&Merc 1st UK	99½		-	-	-	-
§	F.P.	9.62	6	3¾	†Screen	5	-¼	-	-	-	20.6
§145	F.P.	24.5	154½	150½	†Total Office Grp	152½	-1	L4.8	2.6	3.9	9.8
§110	F.P.	117.2	124½	117½	Usher Trowbridge	118½	-2	W3.5	3.0	3.7	11.4
-	F.P.	22.4	147½	143½	Whitehead Mann	144½	-½	§4.35	2.2	3.8	13.9
§-	F.P.	-	177	177	Worldsec	177		-	-	-	-
§-	F.P.	36.7	170	168	†World Telecom	170		-	-	-	-

† Alternative Investment Market. § Placing price. * Introduction. For a full explanation of all other symbols please refer to The London Share Service notes.

FT GOLD MINES INDEX

	†Mar 31	% chg since 31/12/96	Mkt Cap $bn	% of Gold Mines	Gross div yield %	P/E ratio	52 week High	52 week Low
Gold Mines Index(32)	1636.93	-10.3	45.28	100.00	2.05	-	2382.86	1636.93
Regional indices								
Africa (14)	1943.07	-8.6	11.56	25.52	4.62	30.63	3197.52	1918.45
Australasia (6)	1952.16	-12.0	5.13	11.34	2.76	21.16	2844.14	1930.22
North America (12)	1513.71	-10.3	28.58	63.14	0.88	57.92	2134.81	1513.71

 Figures in brackets show number of companies. Basis US Dollars. Base Value: 1000.00 31/12/92. † Partial. Latest prices were unavailable for this edition. Markets closed 31/3/97: Australia and South Africa.

FTSE Actuaries Share Indices — The UK Series

Produced in conjunction with the Faculty and Institute of Actuaries

	Apr 1	Day's chge%	Mar 27	Mar 26	Mar 25	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
FTSE 100	4248.1	-1.5	4312.9	4301.5	4270.7	3728.5	3.80	2.11	15.63	51.20	1798.26
FTSE 250	4497.4	-1.7	4576.2	4568.6	4552.7	4348.7	3.56	1.52	23.06	34.84	1857.44
FTSE 250 ex IT	4539.3	-1.7	4616.7	4607.8	4591.9	4376.6	3.65	1.55	22.11	35.39	1879.36
FTSE 350	2095.2	-1.5	2128.1	2122.9	2109.4	1877.2	3.75	1.99	16.76	23.36	1810.42
FTSE 350 Higher Yield	2018.8	-1.6	2052.5	2047.9	2035.9	1824.2	4.89	1.87	13.64	27.29	1475.07
FTSE 350 Lower Yield	2178.4	-1.5	2210.5	2204.6	2189.4	1937.7	2.60	2.21	21.78	19.14	1543.48
FTSE SmallCap	2280.31	-1.4	2313.72	2312.40	2311.69	2098.77	3.04	1.68	24.43	16.50	1918.78
FTSE SmallCap ex IT	2293.79	-1.3	2323.30	2321.12	2320.68	2081.50	3.21	1.76	22.16	17.02	1944.64
FTSE All-Share	2067.37	-1.5	2099.70	2094.89	2082.52	1855.90	3.69	1.97	17.18	22.42	1812.92

FTSE Actuaries Industry Sectors

	Apr 1	Day's chge%	Mar 27	Mar 26	Mar 25	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
10 MINERAL EXTRACTION(20)	4073.52	-1.2	4123.74	4109.99	4069.30	3373.49	3.67	2.14	15.94	30.55	1798.98
12 Extractive Industries(5)	4035.14	-1.1	4078.63	4086.48	4008.24	4253.73	3.88	2.38	13.52	96.06	1230.76
15 Oil, Integrated(3)	4187.88	-1.2	4239.12	4215.65	4178.66	3405.88	3.89	2.10	15.32	20.17	1895.34
18 Oil Exploration & Prod(12)	3567.94	-1.5	3621.39	3651.30	3622.90	2423.50	1.60	2.20	35.42	34.64	2183.89
20 GEN INDUSTRIALS(270)	1976.78	-1.6	2008.17	2005.56	1996.70	2097.80	4.02	1.87	16.61	18.99	1116.45
21 Building & Construction(35)	1326.87	-1.6	1349.07	1343.88	1333.24	1136.62	3.23	1.88	20.68	12.85	1143.92
22 Building Matls & Merchs(31)	1826.32	-1.8	1860.32	1858.53	1847.55	1854.03	4.38	2.77	10.33	10.40	949.14
23 Chemicals(26)	2247.51	-1.4	2278.33	2274.98	2277.31	2534.75	4.67	1.59	16.85	31.69	1105.96
24 Diversified Industrials(16)	1493.37	-2.1	1525.76	1525.79	1514.98	1780.46	4.82	1.81	14.33	27.90	879.48
25 Electronic & Elect Equip(38)	2192.04	-0.7	2207.00	2204.97	2177.14	2385.53	3.60	1.50	23.08	6.85	1167.76
26 Engineering(70)	2572.78	-1.5	2611.84	2608.19	2601.44	2431.19	3.28	2.45	15.59	17.31	1602.52
27 Engineering, Vehicles(13)	2808.68	-1.5	2850.23	2857.47	2878.22	2959.84	3.95	‡	‡	25.91	1495.53
28 Paper, Pckg & Printing(27)	2487.39	-2.1	2539.52	2523.74	2512.79	2758.76	4.20	1.89	15.75	38.06	1076.19
29 Textiles & Apparel(14)	1071.04	-1.4	1086.19	1085.31	1082.96	1487.11	6.58	0.98	19.34	7.37	682.30
30 CONSUMER GOODS(94)	4109.78	-1.8	4185.83	4180.37	4140.56	3464.93	3.68	1.93	17.57	67.41	1579.62
32 Alcoholic Beverages(7)	2894.59	-2.1	2956.06	2949.35	2893.47	2762.84	4.54	1.89	14.59	62.25	1095.74
33 Food Producers(25)	2882.12	-1.5	2927.48	2927.40	2926.49	2482.75	3.83	1.85	17.59	25.52	1345.75
34 Household Goods(17)	2873.24	-0.9	2899.31	2905.67	2923.87	2569.56	3.59	2.31	15.07	46.72	1178.32
36 Health Care(15)	2162.40	-1.8	2200.91	2188.60	2143.63	1936.19	2.75	1.79	25.42	11.89	1343.26
37 Pharmaceuticals(18)	6392.16	-1.9	6514.66	6472.81	6397.84	4922.52	2.88	1.99	21.80	94.65	2240.57
38 Tobacco(2)	4259.47	-1.9	4343.17	4453.86	4413.90	4180.38	6.38	1.89	10.40	147.58	1133.82
40 SERVICES(273)	2607.07	-1.4	2644.71	2636.38	2622.65	2411.98	2.96	1.98	21.49	17.74	1391.82
41 Distributors(30)	2633.26	-1.7	2679.39	2715.47	2730.97	2756.62	3.47	1.94	18.52	11.32	994.07
42 Leisure & Hotels(31)	3417.42	-1.5	3470.92	3461.86	3472.90	3077.48	2.66	1.73	27.06	56.09	1899.67
43 Media(44)	4209.79	-1.3	4264.09	4242.64	4251.68	4078.32	2.33	1.99	26.96	36.54	1555.07
44 Retailers, Food(15)	1982.14	-1.1	2004.32	1988.50	1979.75	1872.54	4.00	2.28	13.67	6.46	1294.79
45 Retailers, General(53)	2041.80	-1.4	2071.01	2058.93	2023.54	1971.66	3.25	2.04	18.86	13.23	1200.38
47 Breweries, Pubs & Rest.(22)	3300.24	-0.6	3320.67	3298.89	3289.60	3013.45	3.29	2.10	18.07	17.33	1628.10
48 Support Services(56)	2870.17	-2.5	2943.55	2950.63	2938.18	2178.28	1.84	2.58	26.35	6.06	1856.68
49 Transport(22)	2757.14	-1.6	2802.68	2813.78	2794.59	2406.40	3.53	1.26	28.13	13.12	1184.00
60 UTILITIES(33)	2639.35	-1.7	2684.49	2667.30	2658.24	2650.90	5.06	1.55	15.94	5.34	1199.50
62 Electricity(10)	2797.29	-1.0	2826.23	2776.79	2756.68	2783.63	6.05	2.20	9.39	22.06	1545.06
64 Gas Distribution(2)	1512.33	-0.6	1520.75	1502.25	1498.88	1572.00	8.07	‡	‡	0.00	827.51
66 Telecommunications(9)	2239.03	-2.5	2295.84	2301.27	2295.02	2166.91	3.71	1.70	19.75	0.38	1057.19
68 Water(12)	2418.09	-0.7	2434.55	2397.75	2398.44	2175.07	6.16	2.33	8.69	0.00	1398.54
69 NON-FINANCIALS(690)	2133.30	-1.5	2166.88	2160.76	2146.97	1978.97	3.71	1.88	17.86	19.15	1677.82
70 FINANCIALS(106)	3709.74	-1.4	3761.74	3759.07	3741.98	2833.39	3.85	2.39	13.60	70.41	1687.18
71 Banks, Retail(8)	5364.97	-1.4	5440.14	5449.41	5415.35	3932.53	3.73	2.65	12.66	122.52	1834.45
73 Insurance(18)	1634.71	-1.4	1658.35	1663.87	1643.66	1377.79	5.27	2.31	10.25	37.26	1293.98
74 Life Assurance(7)	4448.26	-1.8	4531.89	4440.87	4482.48	3564.67	3.87	2.00	16.11	69.61	1920.98
77 Other Financial(29)	3071.99	-1.7	3123.72	3123.22	3117.43	2547.67	3.30	2.36	16.06	25.17	1809.85
79 Property(44)	1852.92	-0.6	1863.88	1865.80	1859.84	1455.86	3.46	1.31	27.52	7.34	1175.76
80 INVESTMENT TRUSTS(127)	3214.32	-2.2	3288.03	3289.96	3280.15	3167.70	2.27	1.12	49.38	18.86	1145.09
89 FTSE All-Share(913)	2067.37	-1.5	2099.70	2094.89	2082.52	1855.90	3.69	1.97	17.18	22.42	1812.92
FTSE Fledgling	1285.74	-1.6	1306.89	1304.21	1302.96	1175.12	3.04	0.78	52.71	8.16	1376.50
FTSE Fledgling ex IT	1307.04	-1.6	1327.74	1324.63	1318.76	1177.54	3.35	0.75	49.89	8.49	1401.70

Hourly movements

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	High/day	Low/day
FTSE 100	4205.1	4214.8	4217.7	4218.6	4222.9	4229.7	4241.7	4235.5	4230.8	4249.1	4200.5
FTSE 250	4494.1	4490.2	4494.1	4492.0	4498.8	4495.8	4496.8	4497.3	4494.8	4497.6	4487.5
FTSE 350	2079.1	2081.5	2083.0	2083.1	2085.0	2087.8	2092.6	2090.2	2088.2	2095.2	2075.7

Time of FTSE 100 Day's high: 4:30 PM Day's low: 8:38 AM. FTSE 100 1996/97 High: 4444.3 (11/03/97) Low: 3632.3 (24/12/96).

FTSE 350 Industry baskets

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	Close	Previous	Change
Bldg & Cnstrcn	1235.0	1235.8	1238.6	1236.6	1236.3	1236.3	1238.3	1238.7	1237.7	1238.1	1261.5	-23.4
Pharmaceuticls	6240.3	6253.0	6268.7	6270.0	6261.8	6264.1	6277.3	6279.5	6278.0	6312.1	6433.2	-121.1
Water	2385.9	2394.9	2407.4	2408.6	2411.1	2409.5	2408.9	2409.3	2405.2	2409.6	2426.4	-16.8
Banks, Retail	5330.0	5327.8	5337.1	5341.6	5375.8	5396.7	5426.8	5408.5	5400.6	5433.4	5509.6	-76.2

For further information on the FTSE Actuaries Share Indices please contact FTSE International on 0171 448 1810. The FTSE Actuaries Share Indices are calculated in accordance with a standard set of ground rules established by FTSE International in conjunction with the Faculty of Actuaries and the Institute of Actuaries. "FT-SE" and "Footsie" are trade marks of the London Stock Exchange and The Financial Times and are used by FTSE International under licence. † Sector P/E ratios greater than 80 and net covers greater than 30 are not shown. ‡ Values are negative. Deletion: OGC International (FTSE Fledgling) Name Change: RMS Communications formerly Dunton Group (FTSE Fledgling).

FTSE INTERNATIONAL

TRADING VOLUME

Major Stocks Yesterday

	Vol. 000s	Closing price	Day's change
3i†	646	504	-7½
ASDA Group†	4,600	107¾	-2
Abbey National†	2,800	739	-6
Airtours	176	973½	-13
Albert Fisher	424	45	-½
Allied Domecq†	1,400	449½	-6½
Anglian Water	499	635½	-3½
Argos	447	668½xd	+2½
Arjo Wiggins	496	195½	-3
Assoc. Brit. Foods†	2,400	546	-2
Assoc. Brit. Ports	240	268½	-6
BAA†	1,800	506	-8
BAT Inds.†	5,300	508½	-10
BBA	396	355	-6½
BICC	597	268½	-1
BOC†	1,600	941½	-14½
BG†	13,000	161½	-1
BP†	6,500	705½	-1
BPB	939	332	-8½
BSkyB†	1,500	613½	-7½
BT†	16,600	428	-17½
BTR†	8,600	262½	-4
Bank of Scotland†	2,400	318	-2½
Barclays†	6,700	1013	-8
Bass†	2,200	811	-3½
Blue Circle†	2,100	401xd	-6
Booker	217	321½	-6
Boots†	1,600	876	+1
Britannic	46	821xd	-16½
Brit. Aerospace†	1,300	1355½	-9
British Airways†	4,000	643	-12½
British Biotech	396	245	-4½
British Energy	2,800	128½	-1
British Land†	1,400	543½	+1½
British Steel†	15,000	160	-2¾
Burmah Castrol†	408	1005	-12½
Burton†	3,100	151	-6½
Cable & Wire†	3,800	490	-3½
Cadbury Schweppes†	2,100	535	-5
Caradon	2,900	251	+½
Carlton Comms.†	1,600	516	-6
Centrica†	12,400	63¾	-¼
Chubb	421	426½	-7
Coats Viyella	488	133½	-1½
Comm. Union†	1,700	665½	-6
Compass	365	644	-13½
Cookson	2,100	230½	-6
Courtaulds	1,300	358	-5
Dalgety	259	340½xd	-4½
De La Rue	993	534	-18½
Dixons†	2,200	530	-2
EMAP	737	773½	-2
EMI†	978	1144	+29
Electrocomps	1,500	387½	-13
Energy Group†	4,300	486	-13
Enterprise Oil†	446	642	-7
FKI	368	185	-3
Foreign & Col. I.T.	2,500	152¾xd	-2¾
Gen. Accident†	727	805	-13
General Elect.†	3,800	375½	+2
Glaxo Wellcome†	4,500	1109	-13½
Glynwed	381	283	-5½
Granada†	2,900	897	-20½
Grand Met.†	2,000	484	-7
GUS†	1,900	649	-18½
Greenalls	284	534½	-9
GRE†	1,700	278½	-2½
GKN†	348	990	-10½
Guinness†	5,100	499½xd	-8¾
HSBC (75p shs)†	3,200	1449½	-44½
Hammerson	172	431½	-1
Hanson†	4,500	272	-14
Harrisons Crosfield	916	128	-½
Hays†	665	595	-9
Hillsdown	259	191½	-1½
Hyder	311	788	-1
IMI	664	383½	-9
ICI†	3,700	669½	-9
Imperial Tobacco†	822	409½	-8
Inchcape	662	259½	-6½
Johnson Matthey	179	546	-1½
Kingfisher†	1,500	677xd	-9½
Kwik Save	102	303½	-5
Ladbroke†	1,800	221½	-3½
Land Securities†	867	772½	-1
Laporte	446	694	-10
Legal & General†	4,500	384½	-5½
Lloyds TSB†	9,600	498	-1½
LASMO†	1,300	233½xd	-8¾
Lonrho	1,400	140½	-5½
LucasVarity†	3,600	192	-4
MEPC	1,600	485	+7½
MFI	1,500	147½	+3½
Marks & Spencer†	10,000	484	-3½
Mercury Asset Man†	530	1252½	-19½
Morrison (Wm.)	241	153xd	-1
NFC	658	193½	-2
NatWest Bank†	6,700	693½	+7
National Grid†	3,000	209½	-3
National Power†	4,400	480	-6½
Next†	1,700	599	-24½
Northern Foods	3,700	205½	-2½
Orange†	637	207	
Pearson†	2,900	743½	+14½
P & O†	1,900	611	-7½
Pilkington	3,700	118	-2
PowerGen†	1,900	689	-4
Premier Farnell	304	461½	-3½
Provident Financial	212	553½	-7½
Prudential†	5,800	561½	-5½
REXAM	510	335½xd	-5
RMC†	919	952	-21½
RTZ†	2,700	963½	-10
Racal	914	267½	-2
Railtrack†	2,100	444½	-8
Rank Group†	2,100	420½	-2½
Reckitt & Colman†	1,200	808½	-7
Redland	884	360	
Reed Intl.†	1,100	1092½	-28
Rentokil Initial†	1,200	404	-14½
Reuters†	4,600	596½	-22½
Rolls Royce†	2,100	230½	+2½
Royal & Sun Allce†	2,900	438	-9
Royal Bk Scotland†	1,700	524	-13
Safeway†	1,400	351	-5½
Sainsbury†	2,000	337	-2½
Schroders†	198	1532½	-27½
Scottish & New.†	782	692	+5½
Scot. Hydro-Elect.	1,200	363	+2
Scottish Power†	2,200	352	-1½
Sears	3,100	74	+1
Securicor	533	291	-2
Sedgwick	2,100	118½	-2
Severn Trent†	506	694½	-5½
Shell Transport†	6,800	1059½	-26
Siebe†	1,200	1006	-20½
Slough Ests	620	286½	-4½
Smith (W.H.)	818	443	-6½
Smith & Nephew†	894	176	-8
SmKl Beecham†	8,900	870½	-32½
Smiths Inds.†	1,600	779	-18½
Southern Elect	950	384½	-4
South West Water	290	662½	-6½
Stagecoach	101	681	-17½
Standard Chartd.†	988	932	-11½
Storehouse	1,000	233	-3½
T&N	431	148½	-2½
TI Group†	390	540	-15
Tarmac	1,400	98	
Tate & Lyle†	2,200	430	-4
Taylor Woodrow	498	185½	-½
TeleWest Comms	359	106½	-3½
Tesco†	3,700	346	-6½
Thames Water†	1,800	667½	-8
Thorn	1,900	164	-3½
Tomkins†	3,300	265	-7½
Unigate	253	460	-2
Unilever†	2,300	1571½	-43½
United Biscuits	1,700	234½	+2½
Utd. News & Media†	1,400	743	-6½
United Utilities†	770	628½	+3
Vodafone†	3,200	275½	-3
WPP	3,000	247	-6½
Wessex Water	284	368½	-4½
Whitbread†	1,400	787½	-3
Williams Hldgs.	3,600	317	-12½
Willis Corroon	436	147	-2
Wimpey	187	141½	-9¾
Wolseley†	512	479½	-13
Yorkshire Elect.	89	923	+1
Yorkshire Water	220	397½	-10
Zeneca†	1,800	1747½	-15

Based on trading volumes for a selection of major securities dealt through the SEAQ system yesterday until 4.30pm. † Indicates an FTSE 100 index constituent. All trades are rounded. Source: Extel, part of FT Information.

Highs & Lows shown on a 52 week basis

WORLD STOCK MARKETS

EUROPE

AUSTRIA (Apr 1 / Sch)

BELGIUM/LUXEMBOURG (Apr 1 / Frs.)

CZECH REP (Apr 1 / Koruna)

DENMARK (Apr 1 / Kr)

FINLAND (Apr 1 / Mka)

FRANCE (Apr 1 / Frs.)

GERMANY (Apr 1 / Dm.)

GREECE (Apr 1 / Drachma)

ITALY (Apr 1 / Lira)

NETHERLANDS (Apr 1 / Fls.)

NORWAY (Apr 1 / Kroner)

POLAND (Apr 1 / Zloty)

PORTUGAL (Apr 1 / Escudo)

SPAIN (Apr 1 / Pta.)

SWEDEN (Apr 1 / Kronor)

SWITZERLAND (Apr 1 / Frs.)

TURKEY (Apr 1 / Tk Lira)

PACIFIC

JAPAN (Apr 1 / Yen)

HONG KONG (Apr 1 / H.K.$)

INDONESIA (Apr 1 / Rupiah)

MALAYSIA (Apr 1 / MYR)

NEW ZEALAND (Apr 1 / NZ $)

SINGAPORE (Apr 1 / S$)

AUSTRALIA (Apr 1 / Aust.$)

SOUTH KOREA (Apr 1 / Won)

TAIWAN (Apr 1 / TW $)

THAILAND (Apr 1 / Baht)

NORTH AMERICA

CANADA

TORONTO (Apr 1 / Can $) 3:15 pm

MONTREAL (Apr 1 / Can $) 2:30 pm

AFRICA

SOUTH AFRICA (Apr 1 / Rand)

NOTES – Prices on this page are as quoted on the individual exchanges and are mostly last traded prices. * Calendar year high and low. ‡ Dealings suspended. xd Ex dividend. xc Ex scrip issue. xr Ex rights. xa Ex all. † Priced in US $.

♣ FT Free Annual Reports Service
You can obtain the current annual reports of any companies on this page with a ♣ symbol. For North American companies you can either ring +1 804 320 8097, or fax your request to +1 804 320 8035 or order online at http://www.icbinc.com/cgi-bin/ft. For companies from ALL other countries ring 0181 770 0770 or fax your request to 0181 770 3822 (outside UK ring +44 181-770 0770 or fax your request to +44 181 770 3822).

INDICES

	Apr 1	Mar 31	Mar 28	1997 High	1997 Low
Argentina					
General(29/12/77)	(u)	20149.70	(c)	21561.32 24/2	18237.37 2/1
Australia					
All Ordinaries(1/1/80)	2352.2	(c)	(c)	2601.70 18/2	2352.20 1/4
All Mining(1/1/80)	903.1	(c)	(c)	987.10 24/2	903.10 1/4
Austria					
Credit Aktien(30/12/84)	402.22	(c)	(c)	418.23 11/3	374.40 9/1
Traded Index(2/1/91)	1183.48	(c)	(c)	1256.43 11/3	1130.22 9/1
Belgium					
BEL20(1/1/91)	2104.29	(c)	(c)	2220.77 11/3	1871.05 2/1
Brazil					
Bovespa(29/12/83)	(u)	9044.00	(c)	9988.00 11/3	6955.50 2/1
Canada					
Metals Minls♦(1975)	(u)	5323.57	(c)	5891.76 10/3	5274.21 2/1
Composite♦(1975)	(u)	5850.20	(c)	6332.80 10/3	5850.20 31/3
Portfolio§§(4/1/83)	(u)	2949.74	(c)	3214.10 10/3	2941.23 3/1
Chile					
IGPA Gen¶(31/12/80)	(u)	5277.54	(c)	5443.52 25/2	4912.42 2/1
Denmark					
CopenhagenSE(3/1/83)	525.71	(c)	(c)	556.49 11/3	470.14 2/1
Finland					
HEX General(28/12/90)	2784.45	(c)	(c)	3008.36 11/3	2483.28 2/1
France					
SBF 250(31/12/90)	1738.65	(c)	(c)	1815.36 10/3	1533.19 2/1
CAC 40(31/12/87)	2581.82	(c)	(c)	2708.21 10/3	2258.97 2/1
Germany					
FAZ Aktien(31/12/58)	1134.98	(c)	(c)	1192.08 11/3	986.21 2/1
Commerzbank(1/12/53)	3314.20	(c)	(c)	3472.20 27/3	2875.80 2/1
DAX‡(30/12/87)	3295.93	(c)	(c)	3460.59 11/3	2848.77 2/1
Greece					
Athens SE(31/12/80)	1362.46	1368.82	1338.76	1453.60 25/2	954.54 2/1
Hong Kong					
Hang Seng(31/7/64)	12074.19	(c)	(c)	13868.24 20/1	12074.19 1/4
India					
BSE Sens.(1979)	3427.01	3360.89	3663.53	3944.91 4/3	3225.24 2/1
Indonesia					
Jakarta Comp.(10/8/82)	652.07	(c)	(c)	712.80 26/2	638.10 2/1
Ireland					
ISEQ Overall(4/1/88)	2925.45	(c)	(c)	3059.63 11/3	2725.07 2/1
Italy					
Banca Comm Ital(1972)	726.96	(c)	740.82	797.71 10/2	642.55 2/1
MIB General(2/1/87)	1098.0	(c)	1114.0	1197.00 10/2	991.00 2/1
Japan					
Nikkei 225(16/5/49)	17868.59	18003.40	18189.72	19446.00 6/1	17303.65 10/1
Nikkei 300(1/10/82)	282.34	283.91	285.19	292.46 6/1	251.04 27/1
Topix(4/1/68)	1363.05	1371.26	1378.71	1490.86 6/1	1326.60 27/1
2nd Section(4/1/68)	1633.58	1643.71	1645.70	1829.21 6/1	1633.58 1/4
Malaysia					
KLSE Comp.(4/4/86)	1187.77	1203.10	1217.64	1271.57 25/2	1187.77 1/4
Mexico					
IPC(Nov 1978)	(u)	3747.98	(c)	3938.69 25/2	3359.46 2/1
Netherland					
CBS TtlRtnGen(End 83)	824.3	(c)	(c)	885.70 11/3	730.80 2/1
CBS All Shr(End 83)	483.3	(c)	(c)	519.80 11/3	428.60 2/1
New Zealand					
Cap. 40(1/7/86)	2207.48	(c)	(c)	2440.21 20/1	2207.48 1/4
Norway					
Oslo SE Ind(2/1/83)	1759.47	(c)	(c)	1941.49 20/2	1639.03 2/1
Philippines					
Manila Comp(2/1/85)	3171.79	3222.92	(c)	3447.60 3/2	3154.48 2/1
Portugal					
BVL 30(4/1/93)	2543.14	(c)	(c)	2643.19 11/3	2185.57 2/1
Singapore					
SES All-S'pore(2/4/75)	516.04	516.81	(c)	573.03 17/2	516.04 1/4
South Africa					
JSE Gold(28/9/78)	1292.3¶	(c)	(c)	1588.10 27/2	1292.30 1/4
JSE Ind.(28/9/78)	8174.6¶	(c)	(c)	8425.92 25/2	7859.60 2/1
South Korea					
KoreaCompEx**(4/1/80)	672.99	677.34	652.87	721.00 14/2	611.05 7/1
Spain					
Madrid SE(30/12/85)	465.14	473.05	(c)	488.80 10/3	434.54 2/1
Sweden					
AffarsvarldsGen(1/2/37)	2670.2	(c)	(c)	2832.40 10/3	2378.50 2/1
Switzerland					
Swiss Bk Ind(31/12/58)	2152.83	(c)	(c)	2224.60 10/3	1817.95 13/1
SBC General(1/4/87)	1504.38	(c)	(c)	1557.81 11/3	1318.14 5/1
Taiwan					
Weighted Pr.**(30/6/66)	8163.41	8004.20	8119.70	8526.20 13/3	6844.75 6/1
Thailand					
Bangkok SET(30/4/75)	674.74	705.43	709.09	858.97 22/1	674.74 1/4
Turkey					
IMKB Nat 100(1986)	1590.00	1613.00	1552.00	1654.00 21/3	995.00 2/1
WORLD					
MS Capital Intl$(1/1/70)	811.8*	819.7	828.2	854.40 25/2	811.80 1/4
CROSS-BORDER					
Eurotrack 100(26/10/90)	2121.15	(c)	(c)	2231.93 11/3	1893.80 2/1
Euro Top-100(26/6/90)	1798.29	1858.26	1857.26	1894.47 11/3	1582.99 2/1
HSBC JC Drgn(31/12/96)	(u)	397.17	399.63	429.46 20/1	397.17 31/3
MG Base Energ(7/1/92)	(u)	175.31	175.56	181.33 26/2	159.74 3/1

INDEX FUTURES

	Open	Sett Price	Change	High	Low	Est. vol.	Open int.
CAC-40 (200 x index)							
Apr	2580.0	2577.0	−81.0	2593.0	2555.5	17,871	26,438
May	2570.0	2564.0	−81.0	2570.0	2552.0	2	3,684
DAX							
Jun	3305.0	3294.0	−130.0	3324.0	3268.0	28,550	–
Sep	3329.0	3318.5	−136.5	3333.0	3300.0	120	–
OMX							
Apr	2091.00	2067.00	−105.00	2098.00	2055.00	9,666	25,674
May	2084.00	2064.00	−57.25	2084.00	2084.00	20	808
SOFFEX							
Apr	4533.0	4505.0	−152.0	4533.0	4482.1	7,434	25,559
May	4500.0	4482.0	−72.0	4500.0	4500.0	103	1,242

** Sat Mar 22: Taiwan Weighted Price 8234.07; Korea Comp Ex 623.13. Base values of all indices are 100 except Australia All Ord and Mining – 500; Austria Traded, BEL20, HEX Gen., MIB Gen., BVL30, SBF250, CAC40, Euro Top-100, ISEQ Overall, Toronto Comp./Metals & Minerals and DAX – all 1,000; JSE Gold – 255.7; JSE 20 Industrials – 264.3; IMKB Nat 100 – 1; NYSE All Common – 50; Standard & Poor's – 10 and Amex Comp – 550. §§ Montreal. ♦ Toronto. (c) Closed. (u) Unavailable. ‡ IBIS/DAX after-hours index: Apr 1 – 3291.46 –126.37. † Correction. * Calculated at 15.00 GMT. ● Excluding bonds. ‡ Industrial, plus Utilities, Financial and Transportation. ♠ The DJ Ind. index theoretical day's highs and lows are the averages of the highest and lowest prices reached during the day by each stock, whereas the actual day's highs and lows represent the highest and lowest values that the index has reached during the day. (The figures in brackets are previous day's). ¶ Subject to official recalculation.

US INDICES

Dow Jones	Mar 31	Mar 27	Mar 26	1997 High	1997 Low	Since compilation High	Since compilation Low
Industrials	6583.48	6740.59	6880.70	7085.16 (11/3/97)	5032.94 (10/1/96)	7085.16 (11/3/97)	41.22 (8/7/32)
Home Bonds	102.01	102.10	102.18	108.09 (14/2/96)	100.99 (15/7/96)	109.77 (18/10/93)	54.99 (1/10/81)
Transport	2358.31	2404.39	2435.68	2488.59 (18/3/97)	1882.71 (18/1/96)	2489.59 (18/3/97)	13.23 (8/7/32)
Utilities	218.56	219.12	223.24	240.35 (22/1/97)	204.86 (30/7/96)	256.46 (31/8/93)	16.53 (8/7/32)

DJ Ind. Day's high 6743.23(6918.47) Low 6532.49(6654.86) (Theoretical♠)
Day's high 6739.83(6891.28) Low 6561.20(6663.92) (Actual♠)

Standard and Poors	Mar 31	Mar 27	Mar 26	1997 High	1997 Low	Since compilation High	Since compilation Low
Composite‡	757.12	773.88	790.50	816.29 (18/2/97)	598.48 (10/1/96)	816.29 (18/2/97)	4.40 (1/6/32)
Industrials¶	889.26	907.41	925.39	950.96 (18/2/97)	702.07 (15/1/96)	950.96 (18/2/97)	3.52 (30/6/32)
Financial	84.96	88.03	90.80	97.25 (10/3/97)	58.87 (10/1/96)	97.25 (10/3/97)	7.13 (4/9/74)
NYSE Comp.	396.55	407.43	415.37	427.70 (10/3/97)	321.41 (10/1/96)	427.70 (10/3/97)	4.64 (25/4/42)
Amex Comp.	558.71	577.90	583.07	617.61 (22/5/96)	524.20 (16/7/96)	617.61 (22/5/96)	524.20 (16/7/96)
NASDAQ Cmp	1221.70	1249.51	1269.08	1388.06 (22/1/97)	988.57 (15/1/96)	1388.06 (22/1/97)	54.87 (3/10/74)

RATIOS

	Mar 21	Mar 14	Mar 7	Year ago
Dow Jones Ind. Div. Yield	1.89	1.95	1.93	2.13
	Mar 26	Mar 19	Mar 12	Year ago
S & P Ind. Div. yield	1.77	1.78	1.74	1.87
S & P Ind. P/E ratio	22.54	22.38	22.81	21.21

NEW YORK ACTIVE STOCKS

Monday	Stocks traded	Close price	Change on day
Columbia HC	13,578,900	33¾	−4⅛
Coca Cola	6,608,200	55⅝	−1½
WalMart	6,053,200	27⅝	−1⅛
Gen Elec	5,436,300	99⅛	−2⅝
Merck	5,226,400	84¼	−4⅛
Micron	4,845,800	40⅞	+⅛
PepsiCo	4,779,500	32⅞	−¼
Citicorp	4,612,300	108⅛	−2⅝
Fannie Mae	4,531,300	36¼	−2¼
Chase Man	3,842,600	93¾	−2¾

TRADING ACTIVITY

● Volume (million)	Mar 31	Mar 27	Mar 26
New York SE	555.727	481.307	477.022
Amex	19.450	23.439	21.401
NASDAQ	594.384	591.873	602.259
NYSE			
Issues Traded	3,337	3,310	3,325
Rises	542	612	1,307
Falls	2,150	2,108	1,158
Unchanged	645	590	860
New Highs	27	50	71
New Lows	107	67	48

S&P 500

	Open	Latest	Change	High	Low	Est. vol.	Open int.
Jun	758.00	757.90	−17.60	763.40	756.50	95,549	175,395
Sep	–	764.00	−19.35	–	–	340	4,310

Nikkei 225

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	17610.0	17850.0	–	17870.0	17530.0	23,429	234,949
Sep	17720.0	17750.0	−310.0	17750.0	17670.0	42	2,723

Open interest figures for previous day.

TOKYO - MOST ACTIVE STOCKS: Tuesday, April 1, 1997

	Stocks Traded	Closing Prices	Change on day
Nippon Steel Cp	8.4m	348	+8
Sumitomo Bank	5.8m	1450	−20
Sakura Bank	5.7m	683	−10
Mitsubishi Heavy	5.5m	810	+5
Bk Tk-Mitsubishi	5.4m	1910	−20
Kawasaki Steel	5.2m	350	−10
Nippon Credit Bk	4.1m	284	−19
NKK Corp	4.1m	257	−3
Pacific Ind	3.8m	746	+1
Mitsubishi Chem	3.8m	357	−8

3:15 pm April 1

NEW YORK STOCK EXCHANGE PRICES

1997 High	Low	Stock	Div	Yld. %	P/E	Sls 100s	High	Low	Close Quote	Chng Prev. Close
30½	24¼	AAR	0.48	1.6	25	1181	30⅛	29¾	29⅞	-⅛
43	33⅞	AMP	1.04	3.1	25	5854	34½	d33⅞	34	-⅜
90⅜	78¾	AMR			6	5807	82⅜	81½	81⅞	-⅝
37⅝	33¼	ASA	1.20	3.5	22	110	33⅞	33¼	33⅞	
60½	49¾	AbbotL	1.08	1.9	23	11299	56⅝	55⅝	56	-⅛
17½	14½	Abitibi Pr x	0.40	2.8	7	295	14½	d14⅜	14½	
19¾	17⅞	ABM Ind	0.40	2.2	17	78	18¾	18½	18½	-¼
23	18¼	Acptncsin			9	9	19	18⅞	19	+⅛
66⅞	56¼	ACE Ltd x	0.72	1.1	10	446	64	63⅛	64	
10¾	10½	ACM Gvt In	0.90	8.9	11	423	10¼	d10⅛	10⅛	-¼
7⅝	7	ACM GvOpp	0.63	8.7		6	7¼	7¼	7¼	
9⅞	9¼	ACM Man	0.90	9.4		75	9⅝	9⅝	9⅝	
10⅜	6¼	Acme Elect				42	6½	6⅜	6⅜	
20	14⅞	Acme Mills			67	4	15½	15½	15½	-⅛
33	27¼	Acordia	0.80	2.5	16	78	32⅜	32⅛	32⅛	-⅜
29¾	23⅜	Acuson				1093	23⅞	d23¼	23¼	-⅛
21	19⅜	Adams Expr	0.55	2.7	1	311	20⅜	20¼	20¼	
48½	24⅞	AdvMic				28816	41⅜	39⅛	39⅝	-1⅞
15	10⅜	Advest Grp x			8	41	11⅞	11⅝	11⅞	
14⅝	11½	Advo Inc			26	748	11½	d11⅜	11½	-⅛
73⅝	61⅛	Aegon	1.18	1.8	19	142	67⅛	66¼	66⅜	-3
6⅛	3½	Aeroflex				35	3⅝	d3½	3⅝	+⅛
67⅞	48	AES Corp				20	58¾	58¼	58¼	

- B -

- C -

- D -

- E -

- F -

- G -

- H -

- I -

- J -

- K -

- L -

- M -

- N -

- O -

- P - Q -

- R -

- S -

Continued on next page

NYSE PRICES

3:15 pm April 1

Continued from previous page

1997 High	Low	Stock	Div.	Yld %	P/E	Sls 100s	High	Low	Close Price	Chng Prev. Close
[illegible]										

- X - Y - Z -

1997 High	Low	Stock	Div.	Yld %	P/E	Sls 100s	High	Low	Close Price	Chng
63¾	51½	Xerox x	1.28	2.3	15	6908	57⅞	55⅛	55⅝	-1½
43⅝	40½	Xtra Corp	0.80	1.9	16	117	41½	41¼	41½	+⅛
22⅞	21⅛	Yankee Egy	1.30	5.9	10	49	22⅛	21⅞	21⅞	-⅛
58	41¾	York Int	0.48	1.1	12	394	42⅛	d41⅝	41¾	-⅛
5	4	Zapata				208	4⅛	d4	4⅛	
12⅞	9⅛	ZenithEl				1173	10⅛	9⅞	9⅞	-¼
27⅞	25⅞	Zenith Nat	1.00	3.7	12	15	27	26⅞	26⅞	
7½	7⅛	Zenix Inc	0.73	10.1		219	7⅜	d7⅛	7¼	
20¾	16¾	Zero	0.12	0.6	14	30	18⅞	d18¾	18⅞	+⅛
11⅞	10¾	ZweigFd	1.16	10.4		417	11⅛	11	11⅛	+⅛
8⅝	8	Zweig Tot	0.84	9.9		288	8½	8⅜	8½	+⅛

Price data supplied by Extel, part of FT Information.

Yearly highs and lows for NYSE reflect the period from Jan 1 1997. Unless otherwise noted, rates of dividend are annual disbursements based on the latest declaration. Sales figures are unofficial.

d-new yearly low. P/E price-earnings ratio. sls-sales. u-new yearly high. x-ex-dividend or ex-rights. yld-yield. z-sales in full.

Dealings suspended.

♣ FT Free Annual Reports Service

You can obtain the current annual reports and if available quarterly reports of any companies on the US exchanges with a ♣ symbol. To order reports ring (International Access) 1-804-320-8097 or give the names of the companies whose reports you want and fax your request to (International Access) 1-804-320-6135. Reports will be sent the next working day, subject to availability. You can also order online at http:// www.icbinc.com/cgi-bin/ftl.

AMEX PRICES

3 pm April 1

Stock	Div.	P/ E	Sls 100s	High	Low	Close	Chng
Cambrex	0.20	13	71	33¾	33	33⅜	[illegible]
CnRdCalA	0.01		80	4⅞	4⅞	4⅞	-⅟₁₆
Comlnco		19	5	26⅞	26⅞	26⅞	-¼
CropTch			28	9¾	9⅝	9⅝	-¼
Compulsac			28	1⅟₁₆	d1⅛	1⅟₁₆	+⅟₁₆
Concd FbA		18	z0	6¾	6¾	6¾	
GlobIr	0.70	11	295	16⅝	16⅝	16⅝	
Goldfield			25	¼	d⅛	¼	
HanDir			380	11	11	11	
MoogA		14	28	23¾	23⅝	23⅝	+¼
MSR Expl			2	1	1	1	+⅟₁₆
NatPatDev		4	186	6½	6⅛	6⅜	+⅛
MacroB		189	9214	33¼	32¾	32⅞	-¼
WRET	1.12	19	z0	12½	d12½	12½	-¼
Xytronix			91	1⅟₁₆	1⅟₁₆	1⅟₁₆	

NASDAQ NATIONAL MARKET

3:15 pm April 1

Stock	Div.	P/ E	Sls 100s	High	Low	Last	Chng
Kelly Sv	0.84	14	312	27¼	26¾	27¼	+⅜
Kimball x	1.04	15	370	39	37½	38½	+½
KLA Instr		17	7440	37¼	35½	35¾	-¾
Koll A			90	⅟₁₆	⅟₁₆	⅟₁₆	
Komag		14	3952	30⅜	28⅞	29⅟₁₆	-⅟₁₆
Kulicke S			1086	21¼	20¾	21¼	+⅛

- L -

Stock	Div.	P/ E	Sls 100s	High	Low	Last	Chng
Laboxe	0.72	73	258	18⅝	d18¼	18¼	-¼
Ladd Furn			241	15⅛	14½	15	+½
Lam Rsch			1010809	34	31¾	32¾	-1
Lancaster x	0.72	16	711	46	45½	45¾	-¼
Lance	0.96	21	216	18¼	17⅞	17⅞	-⅛

Stock	Div.	P/ E	Sls 100s	High	Low	Last	Chng
Qualcom		415	4400	56⅝	d52½	54	+⅛

- R -

Stock	Div.	P/ E	Sls 100s	High	Low	Last	Chng
Rainbow		12	229	17¼	16⅞	16⅞	-⅜
Rallys			1409	3⅝	3½	3⅟₁₆	-⅟₁₆
Raymond	0.25	14	1872	28⅛	27¼	28	+¼
RCSB Fn	0.80	11	187	30⅞	29¾	30⅛	+⅛
Read-Rite			13946	26¾	24⅝	26	+¾
Recoton		12	34	13⅞	d13⅟₁₆	13⅞	+¼
RegFinCp x			2841	57¼	55	56¾	+1¼
Repligen			245	1⅜	1¼	1¼	-⅟₁₆
Repub Ind			5492	34	31¼	31⅝	-3⅟₁₆
ResrchMed		23	z0	23¼	23¼	23¼	

Stock	Div.	P/ E	Sls 100s	High	Low	Last	Chng
Wolohan L x	0.28	13	30	[illegible]			
Whtlcas			2264977	[illegible]			
Worthgtn	0.48	20	1457	[illegible]			
WPP ADR	0.10	22	135	[illegible]			
Wyman-Gdn	0.40	26	931	[illegible]			

- X - Y - Z -

Stock	Div.	P/ E	Sls 100s	High	Low	Last	Chng
Xilinx			2821640	[illegible]			
Xircom		27	1052	[illegible]			
Xoma Corp			1900	5⅟₁₆	5⅟₁₆	5⅟₁₆	+⅟₁₆
Yellow			2598	d19¼	18⅞	19	+⅜
York Rsch		16	110	8	7¾	8	
ZionsUtah	1.76	16	1007	118	114½	115⅛	-3⅝

EASDAQ

EASDAQ is a fully regulated independent pan European Stock Market focused on high growth companies with international aspirations. The shares of companies on the EASDAQ Stock Market can be bought and sold through EASDAQ Members. EASDAQ Members are made up of Brokers and Banks from across Europe.

Company	Mid price	Change on day	Volume	High	Low	Company	Mid price	Change on day	Volume	High	Low
ActivCard	US$8.125		0	8.25	8	Esprit Telecom ADS	US$12.125		0	12.5	12
Atlantic Systems	US$10.625	-0.125	3200	11.375	10.25	Innogenetics	US$12.125	-0.125	11485	12.625	10.5
Chemunex	FFr17.5	-0.5	4000	19	17	Mercer Internat.	US$9.625		0	11.375	9
Dr Solomon's ADS	US$22	-0.25	0	26	20.875	PixTech	US$4.75	+0.125	1000	6.25	4.375

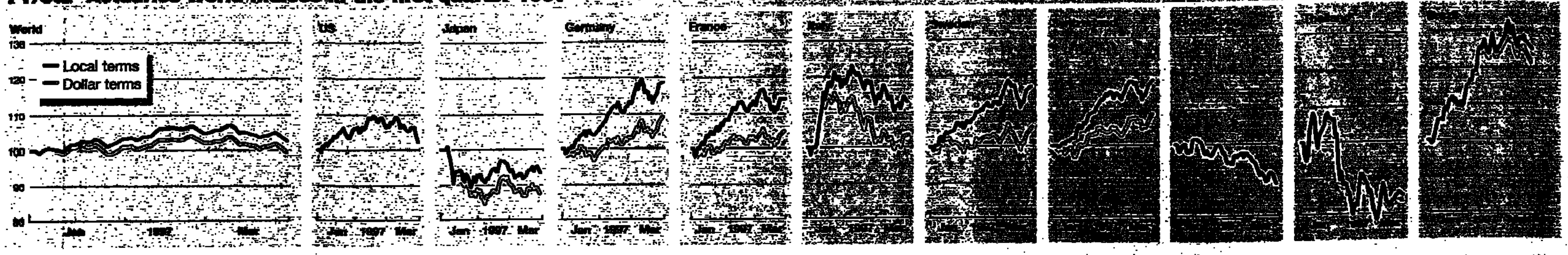
Prices for 1/4/97. Please note that trading prices are currently used to calculate highs and lows.

Information about EASDAQ can be found on the Web site at: HTTP://WWW.EASDAQ.be

EASDAQ offices are located in Brussels (Tel. 32-2 / 227 65 20) and in London (Tel. 44-171 / 489 9990).

FINANCIAL TIMES Wednesday April 2 1997

FT/S&P Actuaries World Indices in the first quarter 1997



Blue chips stabilise after losses

AMERICAS

Blue chips called a halt to their losses on the heels of two consecutive days of weakness, but technology shares remained weak, *writes Lisa Bransten in New York.*

At noon, the Dow Jones Industrial Average had edged up 4.91 at 6,588.39 and the Standard & Poor's 500 was 1.43 stronger at 758.55. NYSE volume was 225m shares. Trading remained nervous as investers awaited data on March employment for signs of inflationary pressures in the economy. Wall Street analysts remained divided about whether the Federal Reserve would raise interest rates again in the wake of last week's ¼ point increase in the federal funds target rate.

Technology shares edged lower as investors worried about earnings from the high-tech companies. The Nasdaq composite dropped 2.00 at 1,219.70 and the Pacific Stock Exchange technology index, containing Nasdaq and NYSE-quoted shares, shed 0.6 per cent.

Concern was sparked by a warning from Informix, a leading maker of database software, that it expected to report a loss in its first quarter due, in part, to "weakness in all geographic regions particularly Europe". Shares in the company shed $4⅝, or 31 per cent, at $10½.

Oracle, the leading maker of database software and the fourth-largest company on Nasdaq, lost $1⁄16 at $38, while the Nasdaq's three biggest companies posted small gains. Intel rose $¾ at $139⅝, Microsoft added $1⁄16 at $92⅝ and Cisco Systems climbed $1⁄16 at $48⅞.

Some of the strongest performers on the Dow were financial shares which had been beaten down during the market's recent weakness. JP Morgan added $1¼ at $99⅛, Travelers Group climbed $1¼ to $49⅝ and American Express advanced $⅝ to $60⅛.

TORONTO picked up in mid-morning trade before its computer trading system collapsed as a huge volume of deals in Bre-X Minerals built up shortly after the exchange reopened trading in the stock. Bre-X, the troubled exploration company whose shares tumbled C$13 on Thursday, recouped C$1.35 to C$3.85 in volume of about 7.7m shares before the trading system collapsed. The TSE-300 composite index added 31.18 to 5,881.40.

Latin American markets saw cautious trade during the morning session as investors kept a wary eye on Wall Street.

MEXICO CITY edged lower, taking the IPC index down 22.28 at 3,725.70.

MARKETS IN PERSPECTIVE

	% change in local currency †				% change sterling †	% change in US $ †
	1 Week	4 Weeks	1 Year	Start of 1997	Start of 1997	Start of 1997
Austria	+0.13	+0.19	+15.35	+6.93	+2.86	-1.77
Belgium	+2.76	+0.44	+32.20	+13.84	+9.44	+4.52
Denmark	+0.57	+0.69	+39.69	+12.89	+9.18	+4.28
Finland	-0.13	-1.37	+54.23	+13.62	+10.17	+5.22
France	+2.65	+1.68	+31.39	+14.43	+10.34	+5.37
Germany	+3.70	+4.85	+34.62	+18.32	+13.91	+8.78
Ireland	+1.84	-1.86	+25.57	+7.99	+5.43	+0.69
Italy	+0.32	+0.35	+27.91	+12.80	+7.29	+2.47
Netherlands	+2.11	+1.52	+40.37	+13.98	+9.53	+4.61
Norway	+1.39	+0.81	+36.07	+9.65	+10.58	+5.61
Spain	+3.02	+4.22	+46.36	+8.60	+4.11	-0.57
Sweden	+3.80	+4.46	+45.79	+16.76	+10.31	+5.35
Switzerland	+3.47	+3.90	+26.90	+18.01	+14.47	+9.32
UK	+1.17	-0.21	+15.71	+4.15	+4.15	-0.53
EUROPE	+2.16	+1.67	+27.15	+11.01	+8.32	+3.45
Australia	+1.61	-0.15	+9.99	+0.69	+4.11	-0.57
Hong Kong	+0.06	-6.80	+5.18	-9.93	-5.87	-10.10
Indonesia	+1.36	-7.40	n.a.	+3.57	+6.70	+1.91
Japan	-1.18	-0.49	-13.81	-5.91	-7.69	-11.84
Malaysia	+0.03	-5.44	+10.08	+0.92	+7.54	+2.71
New Zealand	+0.29	-1.85	+0.92	-6.00	-3.24	-7.58
Philippines	+0.41	-5.20	n.a.	-3.78	+0.39	-4.12
Singapore	+1.54	-6.92	-6.66	-4.02	-2.88	-7.25
Thailand	+1.63	-1.77	-53.21	-14.89	-12.06	-16.02
Canada	-2.35	-3.72	+21.42	-0.11	+3.84	-0.82
USA	-1.27	-2.17	+18.70	+4.12	+9.02	+4.12
Brazil	-0.48	+2.56	+64.49	+27.28	+30.79	+24.92
Mexico	+0.67	-0.55	+19.71	+12.91	+17.48	+12.20
South Africa	-0.28	-1.44	+4.04	+6.99	+18.56	+13.24
WORLD INDEX	-0.21	-1.01	+12.90	+3.69	+5.44	+0.70

† Based on March 28th 1997.

Dow, dollar and bonds impact on bourses

EUROPE

Two bad days for the Dow and further weakness in the dollar and domestic bond markets made their expected impact. **FRANKFURT's** Dax index closed 126.37 lower at an Ibis-indicated 3,281.46.

Last Thursday morning, the Dax registered an intraday peak of 3,466.47. The question then, said Mr Jens Wiecking of Prof Dr Dolff & Partners in Düsseldorf, was whether the market would see new highs.

In fact, it was a double top, noted Mr Wiecking, who feared that the liquidity which had boosted German equities would now disappear, with US investors redeeming their mutual fund holdings and hedge funds choosing to repay yen debt rather than continue to shovel funds into equities.

"International investors are fully invested in Germany, they have made good profits and they are likely to use the German market to get into cash," said Mr Wiecking.

He added that excitement associated with the shareholder value theme had been dissipated by policy decisions at Hoechst, which ruled out a pharmaceuticals hive-off, and at Krupp, which pulled out of its reverse bid for Thyssen.

PARIS saw progress reports from CLF-Dexia and Saint-Gobain, and punished both of them.

Dexia, the Franco-Belgian banking combine, reported a 13 per cent rise in 1996 net income and forecast a further gain in 1997 profits. It also saw a broker sell recommendation and fell FFr46, or 7.6 per cent, to FFr561.

Saint-Gobain admitted to product pricing problems, but it forecast a gain of at least 20 per cent in 1997 net profits.

This left the shares down FFr42, or 5 per cent, at FFr810, as the CAC 40 index shed 74.86 at 2,581.82.

ZURICH's blue-chip exporters added the dollar to the Dow and the SMI index finished 157.5 lower at 4,501.7. Nestlé dropped SFr64 to SFr1,621 and Roche certificates gave up SFr520 to SFr11,925.

Among financials, CS Group, a recent high flyer, gave back SFr9.50 to SFr163 while the insurer Zurich lost SFr16.50 at SFr436.50.

Lindt & Spruengli, the upmarket chocolate maker, outperformed as the market digested 1996 results. The shares finished steady at SFr27,000.

AMSTERDAM seemed to give its financials a particularly bad time, although Philips shed 5.8 per cent, and Unilever 4.9 per cent as the AEX index came in 32.39 lower at 708.60.

In insurers, the Dutch/Belgian combine Fortis Amev dropped Fl 4.40, or 6 per cent, to Fl 68.70 on profit-taking and Aegon by Fl 7.90, also 6 per cent, to Fl 124.20.

In banks, ABN-Amro shed Fl 7.10 to Fl 121.90 and ING, topping the volume charts, lost Fl 3.80 at Fl 70.10.

MILAN was supported by some bargain-hunting and by news of a sharply lower first-quarter budget deficit. The Comit index lost 13.86 to 726.96 while the real-time Mibtel index finished 190 lower at 11,640.

Foreign favourites held up better than most. Eni lost L67 to L8,393, Telecom Italia lost L29 to L4,141 and Stet was L56 weaker at L7,287.

Against the trend, Snia Fibre jumped L20.7 to L660.7 after last week's details of share-swap terms with its parent company Snia BPD, which gave up L48 to L1,692.

Brembo, the brake systems and motor components manufacturer, added to last week's 9.6 per cent losses which followed disappointing 1996 results, with a further fall of L2,150 to L19,650.

STOCKHOLM's internationals and its recently ebullient banks lost ground as the general index dropped 119.33 to 2,631.28.

The US favourites Astra and Ericsson fell SKr20 to SKr344.50 and SKr12.50 to SKr258.50, and Nordbanken and S-E-Banken by SKr8 to SKr252 and SKr5.50 to SKr78 respectively.

THE DAY'S CHANGES

	% Change
Amsterdam	-4.4
Stockholm	-4.3
Frankfurt	-3.7
Zurich	-3.4
Paris	-2.8
Milan	-1.9

FTSE Actuaries Share Indices

THE EUROPEAN SERIES

Apr 1 Hourly changes	Open	10.30	11.00	12.00	13.00	14.00	15.00	Close
FTSE Eurotrack 100	2134.04	2125.89	2122.44	2120.82	2121.83	2123.13	2123.27	2121.15
FTSE Eurotrack 200	2152.53	2143.79	2145.84	2146.13	2147.10	2150.23	2148.59	2145.26

	Mar 27	Mar 26	Mar 25	Mar 24	Mar 21
FTSE Eurotrack 100	2188.61	2174.89	2140.51	2128.35	2130.07
FTSE Eurotrack 200	2204.36	2198.09	2164.28	2148.82	2150.57

Base value 1000 (26/10/90); High/day: 100 - 2134.18; 200 - 2152.83 Low/day: 100 - 2120.59 200 - 2142.83. † Partial.

Written and edited by William Cochrane and Michael Morgan

Hong Kong, Sydney drop after four-day break

ASIA PACIFIC

Wall Street's decline over the previous two sessions kept the pressure on most regional markets with the biggest losses being registered in those returning to work after an extended four-day break.

Among these, **HONG KONG** posted its ninth-biggest points loss ever, unsettled by the prospect of higher interest rates and the outlook for the domestic property sector.

The Hang Seng index plummeted 460.13 to 12,074.19 in turnover that picked up to HK$9.1bn.

Property stocks were hurt both by the outlook for interest rates and worries that the Hong Kong government might intervene further to curb rising property prices after moving last week to increase supply.

Cheung Kong slumped HK$4.50 to HK$63.75 and Sun Hung Kai Properties tumbled HK$3.50 to HK$78.50.

TOKYO combined the Wall Street effect with disappointment over Monday's plans to revive the property market, *writes Gwen Robinson.*

The Nikkei 225 average fell 133.81 to 17,869.59, after moving between 17,529.05 and 17,934.79. Volume swelled from 259m shares to an estimated 398m.

Heavy selling of real estate and banking stocks showed investors' disappointment with the government's real estate package. Many investors felt the amount of public funds allocated to the purchase of land was too small and that other measures, including provisions enabling the securitisation of real estate collateral, were insufficient to lift the property market or to help banks with their problem loans.

Declines led advances by 847 to 278, with 116 unchanged. The Topix index of all first-section stocks slid 10.21 to 1,363.05, the capital-weighted Nikkei 300 was off 1.57 at 262.34 and, in London, the ISE/Nikkei 50 index fell 1.78 to 1,420.47.

Further reports about restructuring plans for the ailing Nippon Credit Bank hit leading commercial banks, which were being targeted by the government as potential contributors to NCB's capital increase. Bank of Tokyo-Mitsubishi shed Y20 to Y1,910 and Industrial Bank of Japan fell Y30 to Y1,230. NCB, which confirmed details of its radical restructuring plan, slid a further Y19 to Y261.

Real estate companies mostly retreated. Mitsui Fudosan fell Y40 to Y1,240 and Heiwa Real Estate by Y15 to Y575.

Retailers were hit on the first day of the sales tax increase from 3 per cent to 5 per cent. Ito-Yokado shed Y120 to Y5,380 and Jusco, another supermarket operator, fell Y80 to Y3,320. In department stores, Takashimaya slid Y30 to Y1,160 and Isetan Y90 to Y1,210.

In Osaka, the OSE average fell 188.48 to 18,973.44 as volume fell to 18.1m shares.

SYDNEY brokers said that volume was relatively thin, with a dearth of sell orders as the All Ordinaries index closed 70.1 lower at 2,352.2.

SINGAPORE recovered from an early tumble and the Straits Times Industrial index finished 1.67 higher at 2,074.67.

The rally among blue chips was led by Fraser & Neave, up 40 cents at S$12.20, and Keppel, which picked up 15 cents at S$9.25.

KUALA LUMPUR finished lower in further response to Bank Negara's plan to curb loans for property and share purchases and the composite index closed down 15.33 at 1,182.65, with banking and property stocks under pressure.

SEOUL saw an early rally in response to Monday's long-awaited announcement of a rise in the foreign investment ceiling. However, that soon gave way to profit-taking which left the composite index to close 4.35 lower at 672.99.

TAIPEI was rescued from the Wall Street effect as Formosa Plastics reached agreement with the Taiwan economics ministry to back off from a US$3bn China power plant investment. Taipei was expected to deny it a permit to finance the controversial project.

The weighted index rose 159.21 to 8,163.41, although Formosa Plastics itself fell 50 cents to T$69.

THE DAY'S CHANGES

	% Change
Hong Kong	-3.7
Sydney	-2.9
Kuala Lumpur	-1.3
Tokyo	-0.7
Seoul	-0.6
Singapore	+0.1
Taipei	+2.0

Johannesburg tumbles 1.9%

Johannesburg joined in the global rush of falling shares, leaving the overall index down 132.4 or 1.9 per cent at 6,962.4 as industrials dropped 164.8 or 2 per cent to 8,174.6. Golds initially fared better before the bullion price edged below $350 an ounce, and the index finished 9.3 weaker at 1,292.3.

SA Breweries gave up 300 cents at R137 after a day of rumours, denied by the South African group, that it might be about to bid for the Austrian drinks group, BBAG.

FT/S&P ACTUARIES WORLD INDICES

The FT/S&P[1] Actuaries World Indices are owned by FTSE International Limited, Goldman, Sachs & Co. and Standard & Poor's. The Indices are compiled by FTSE International and Standard & Poor's in conjunction with the Faculty of Actuaries and the Institute of Actuaries. NatWest Securities Ltd. was a co-founder of the Indices.

NATIONAL AND REGIONAL MARKETS	MONDAY MARCH 31 1997								FRIDAY MARCH 28 1997					DOLLAR INDEX		
Figures in parentheses show number of lines of stock	US Dollar Index	Day's Change %	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	Local % chg on day	Gross Div. Yield	US Dollar Index	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	52 week High	52 week Low	Year ago (approx)
Australia (78)	220.48	-0.1	199.07	172.55	191.24	187.09	0.0	4.06	220.64	200.16	172.76	192.27	187.09	225.77	188.44	199.45
Austria (24)	187.46	0.5	169.26	146.71	162.60	162.54	0.0	1.79	186.55	169.24	146.07	162.57	162.54	195.04	174.70	182.58
Belgium (26)	238.75	0.3	215.56	186.85	207.08	203.04	0.0	3.44	237.99	215.90	186.35	207.39	203.04	241.64	204.91	204.91
Brazil (26)	230.65	-2.6	208.25	180.51	200.06	450.16	-2.5	1.15	236.93	214.94	185.52	206.47	461.75	247.23	149.69	153.90
Canada (114)	185.43	-1.5	167.42	145.12	160.84	185.50	-1.4	2.10	188.28	170.80	147.43	164.07	188.22	203.31	154.12	156.44
Denmark (32)	368.76	0.5	332.95	288.60	319.85	318.78	0.0	1.57	367.01	332.95	287.38	319.82	318.78	376.98	291.89	296.74
Finland (26)	259.71	0.5	234.49	203.26	225.27	269.95	0.0	1.69	258.47	234.48	202.39	225.24	269.95	268.58	174.47	180.90
France (91)	226.25	0.3	204.28	177.07	196.25	199.76	0.0	2.66	225.57	204.64	176.63	196.57	199.76	226.25	186.94	194.59
Germany (59)	207.65	0.5	187.49	162.51	180.11	180.11	0.0	1.50	206.68	187.50	161.84	180.11	180.11	207.65	164.47	173.06
Hong Kong (58)	455.28	-0.1	411.07	356.31	394.90	452.95	-0.1	3.48	455.85	413.54	356.94	397.24	453.53	514.49	407.55	432.18
Indonesia (27)	232.54	0.0	209.96	181.99	201.70	342.52	0.0	1.55	232.54	210.96	182.09	202.64	342.52	-	-	-
Ireland (16)	333.28	0.7	300.92	260.83	289.08	295.62	0.0	3.25	331.13	300.40	259.28	288.56	295.62	343.35	264.44	265.40
Italy (59)	85.84	0.3	77.51	67.18	74.46	106.95	0.0	2.14	85.55	77.61	66.99	74.55	106.95	96.32	71.97	72.17
Japan (480)	113.36	-0.4	102.35	88.72	98.33	88.72	-0.4	0.89	113.79	103.23	89.10	99.16	89.10	164.68	109.16	154.61
Malaysia (107)	608.70	-1.8	549.59	476.38	527.97	581.23	-1.8	1.09	619.55	562.05	485.12	539.89	592.11	680.85	512.47	553.30
Mexico (27)	1344.31	-1.8	1213.76	1052.08	1166.02	11656.93	-1.7	1.12	1368.66	1241.64	1071.70	1192.70	11854.66	1445.68	1110.35	1199.32
Netherland (19)	353.32	0.5	319.01	276.51	306.46	302.49	0.0	2.55	351.63	319.00	275.34	306.42	302.49	357.18	279.88	287.17
New Zealand (14)	84.83	0.0	76.59	66.39	73.58	64.83	0.0	4.39	84.81	76.93	66.41	73.90	64.83	95.60	75.84	83.44
Norway (41)	313.64	0.5	283.19	245.46	272.05	280.88	0.0	2.18	312.14	283.17	244.41	272.01	280.88	321.23	238.19	236.50
Philippines (22)	196.90	0.8	177.78	154.10	170.78	258.71	0.7	0.67	195.24	177.12	152.88	170.14	256.81	-	-	-
Singapore (43)	384.62	-1.2	347.27	301.01	333.61	258.17	-1.4	1.10	389.42	353.28	304.93	339.35	258.76	449.15	371.28	440.83
South Africa (44)	360.50	0.0	325.49	282.13	312.69	348.31	0.0	2.41	360.58	327.12	282.35	314.22	348.31	386.46	301.49	386.46
Spain (35)	215.18	-1.5	194.28	168.40	186.64	231.11	-1.8	2.75	218.55	198.26	171.13	190.45	235.22	228.16	171.08	171.81
Sweden (49)	446.46	0.5	403.12	349.42	387.26	497.94	0.0	2.09	444.47	403.22	349.03	387.33	497.94	448.64	394.04	343.64
Switzerland (36)	262.41	0.6	236.93	205.37	227.61	234.36	0.0	1.36	260.80	236.59	204.21	227.27	234.36	262.41	229.38	250.26
Thailand (44)	80.04	-0.5	72.27	62.64	69.43	80.69	-0.6	3.88	80.45	72.98	63.00	70.11	81.14	187.79	73.98	178.85
United Kingdom (212)	283.00	0.5	255.52	221.48	245.47	255.52	-0.0	3.85	281.66	255.52	220.56	245.45	255.52	285.30	228.85	228.92
USA (654)	307.07	-2.3	277.25	240.32	266.35	307.07	-2.3	1.96	314.29	285.12	246.10	273.88	314.29	331.54	254.79	263.53
Americas (823)	281.15	-2.3	253.84	220.03	243.86	236.73	-2.2	1.95	287.85	260.95	225.24	250.66	242.19	303.45	233.09	240.53
Europe (727)	248.87	0.4	224.70	194.77	215.86	226.82	-0.1	2.73	247.92	224.91	194.13	216.05	226.97	248.97	204.71	207.12
Nordic (150)	383.40	0.5	346.17	300.06	332.55	366.41	0.0	1.97	381.63	346.21	298.83	332.57	366.41	385.85	286.64	292.72
Pacific Basin (872)	133.20	-0.4	120.27	104.25	115.54	102.97	-0.5	1.42	133.76	121.34	104.74	116.56	103.45	177.01	131.50	167.72
Euro-Pacific (1599)	181.41	0.0	163.79	141.97	157.35	149.72	-0.2	2.17	181.34	164.51	141.99	158.02	150.07	191.51	176.79	184.03
North America (768)	299.65	-2.3	270.56	234.51	259.91	298.04	-2.3	1.97	306.58	278.13	240.06	267.17	305.95	323.69	248.65	256.91
Europe Ex. UK (515)	224.70	0.3	202.88	175.86	194.90	206.18	-0.1	2.10	223.96	203.18	175.37	195.17	206.40	224.70	185.65	189.97
Pacific Ex. Japan (392)	299.25	-0.5	270.19	234.20	259.56	259.39	-0.5	2.89	300.78	272.86	235.52	262.11	260.78	320.65	269.97	269.44
World Ex. US (1812)	184.57	-0.1	166.65	144.45	160.09	155.45	-0.3	2.15	184.70	167.56	144.63	160.96	155.85	193.47	179.10	185.27
World Ex. UK (2254)	217.75	-1.3	196.60	170.41	188.87	193.20	-1.4	1.96	220.58	200.11	172.72	192.22	195.90	228.59	199.58	207.30
World Ex. Japan (1986)	279.46	-1.2	252.32	218.71	242.40	268.43	-1.4	2.28	282.97	256.70	221.57	246.59	272.20	292.72	233.10	239.67
The World Index (2466)	223.26	-1.1	201.60	174.74	193.67	196.83	-1.2	2.06	225.78	204.82	176.79	196.75	201.33	233.58	202.32	209.27

 CONSTITUENT CHANGE WITH EFFECT 2/4/97: Deletion: Pacific Telesis (USA). Latest prices were unavailable for this edition. Markets open 31/3/97: Brazil, Canada, Japan, Malaysia, Mexico, Philippines, Singapore, Spain, Thailand and USA.